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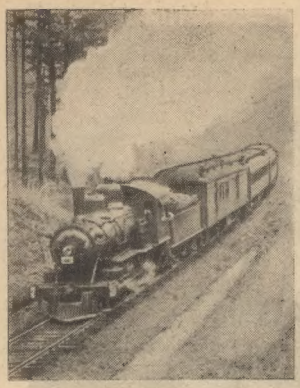

RAILROAD MAGAZINE

Originally Railroad Man's Magazine, founded 1906

August, 1944 *Vol. 36, No. 3* *25 Cents*

Front Cover: *Signal Maintainer (PRR)*, **by Emmett Watson**

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Henry B. Comstock, ***Editor*** **Freeman H. Hubbard,** ***Research Editor***

Published monthly by Popular Publications, Inc., 2256 Grove St., Chicago, 16. Editorial, advertising, subscription, and executive offices, 205 E. 42nd St., New York City, 17. Harry Steeger, President and Secretary, Harold S. Goldsmith, Vice President and Treasurer. Entered as second class matter January 6, 1943, at post office at Chicago, Ill., under Act of March 3, 1879. Copyright, 1944, by Popular Publications, Inc. Printed in U. S. A. All rights reserved. Single copy 25c. By the year $3.00 in U. S. A., its dependencies, and Canada, Mexico and Cuba. Canada, $3.00. Other countries, $4.00.

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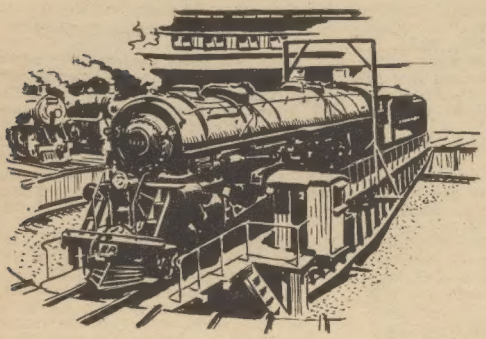
Less Than Carload Lots

A YOUNG woman traveling on the ACL southbound *Champion* the other day received a telegram handed aboard the train at the Jacksonville, Fla., depot. The news was unexpected. Her husband, a lieutenant in the Navy Medical Corps, who had been serving in the South Pacific nearly two years, announced he would be in New York the next morning. She rushed to the conductor with the telegram, saying:

"I've just got to get off this train."

The *Champion* was already under way, but not yet out of Jacksonville station. The conductor yanked the cord for an emergency stop; and the excited wife, baggage in hand, was hustled off. Ticket agents read the telegram and supplied a coach reservation on the northbound *Champion,* which was due through Jacksonville three hours later. So the happy young woman was back in New York in time to meet her husband, thanks to the understanding and prompt action of ACL employes.



AVERAGE length of the American soldier's rail trip so far in this war is 850 miles, according to Col. E.C.R. Lasher, deputy chief, Traffic Control Division, Army Transportation Corps. The following item comes from Canadian National sources: A kitchen-commissary car, No. 15,605, recently traveled 9092 miles, 6745 of them in troop trains, during a 17-day period. The same crew of 14 men made the entire trip. This may have set a record.

MORE THAN a thousand American freight trains are being dispatched from terminals every 24 hours, seven days a week —about 16 per minute!

* * *

NICKEL PLATE ROAD

EMERGENCY SERVICE. Members of Hose Company No. 4 of Dunkirk, N. Y., a town situated on Lake Erie, were interrupted several weeks ago at their regular Thursday night debate by screeching train brakes at a grade crossing near their hall.

Rushing outside to investigate, they found a westbound Nickel Plate passenger train with its engine cab a mass of flames. The hogger, A. M. Alfred, of Portland, N. Y., had discovered the fire when he was a short distance from Silver Creek. Knowing that Hose 4's hall was just beside the right-of-way, he widened on his throttle and headed for it. Fire laddies got busy with their hoses, putting out the blaze. The cab was badly damaged, but the train was delayed only fifteen minutes, and no one was injured. This is the only occasion we know of when a locomotive engineer stopped at a fire house asking for service. The news item was contributed by Sam A. Fadale, 311 Park Ave., Dunkirk.

* * *

MISS BARBARA COOPER, secretary in a defense plant, accidentally dropped her handbag out the window of Katy train No. 8 one night enroute from Wichita Falls to Niles, Mich. The purse contained $150 in cash, her ticket, baggage checks, jewelry, etc., and was lost about 2½ miles south of Checotah, Okla.

"It was an unusual and frightening experience," Barbara said. "Nearly a whole year's savings were in that pocketbook."

When the train reached Muskogee, Okla., at 10:55 p.m., a Katy traveling special officer named A. C. Parks drove the girl in his car to a point near where the bag had fallen. The two walked alongside the track for some distance, and finally recovered the lost bag. Its contents were scattered over the ground, but Barbara found everything. And was she happy!

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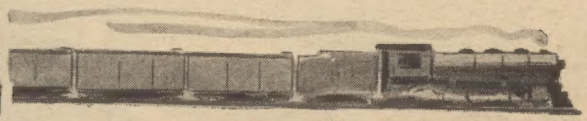

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Mississippi Delta Road

Ole Man River Is Friend and Foe of the Columbus & Greenville

By STUART COVINGTON

MEMORIAL to Adam T. Stovall, energetic Okolona lawyer, who changed the C&G from a bankrupt stepchild of the Southern Ry. to a prosperous independent short line, stands a car-length from the Columbus, Miss., depot shared as a terminal by the two roads

ICY RAIN sizzled onto the boiler jackets of two Baldwin ten-wheelers that were tied to a string of boxcars standing journal-deep in muddy water. The scene was the Columbus & Greenville freight yard at Greenville, Miss., on the night of April 21st, 1927. Green and amber switch lights glowed across the flooded area, their reflection dancing in the inky water. You could not see beyond the dim zone of illumination surrounding each light. No matter in which direction you looked, you saw water —water and blackness beyond. The restless Mississippi River had overflowed its banks again. All day the worried refugees, burdened with such property as they could carry, had been fleeing the Delta lowlands on C&G trains.

From somewhere out of the fog the conductor, in hip boots and dripping raincoat, sloshed forward and passed up flimsies to the engine crew. A minute later the driving wheels spun, churned the water into foam and slowly took hold, easing soggy cars out of the submerged yard onto the equally submerged main iron. Darkness swallowed the ghostly freight. After that, nothing else on wheels left or entered town over the C&G for more than three months.

The last train proceeded cautiously as far as Paducah, a tiny flag stop two and a half miles east of Greenville, and there she ran into a washout. The crew could do nothing but splash their way back to town on foot and wait out the flood. They had a long wait. Five weeks the locomotive and cars stood in water at the

Photo by W. A. Traylor, Master Mechanic, Columbus & Greenville

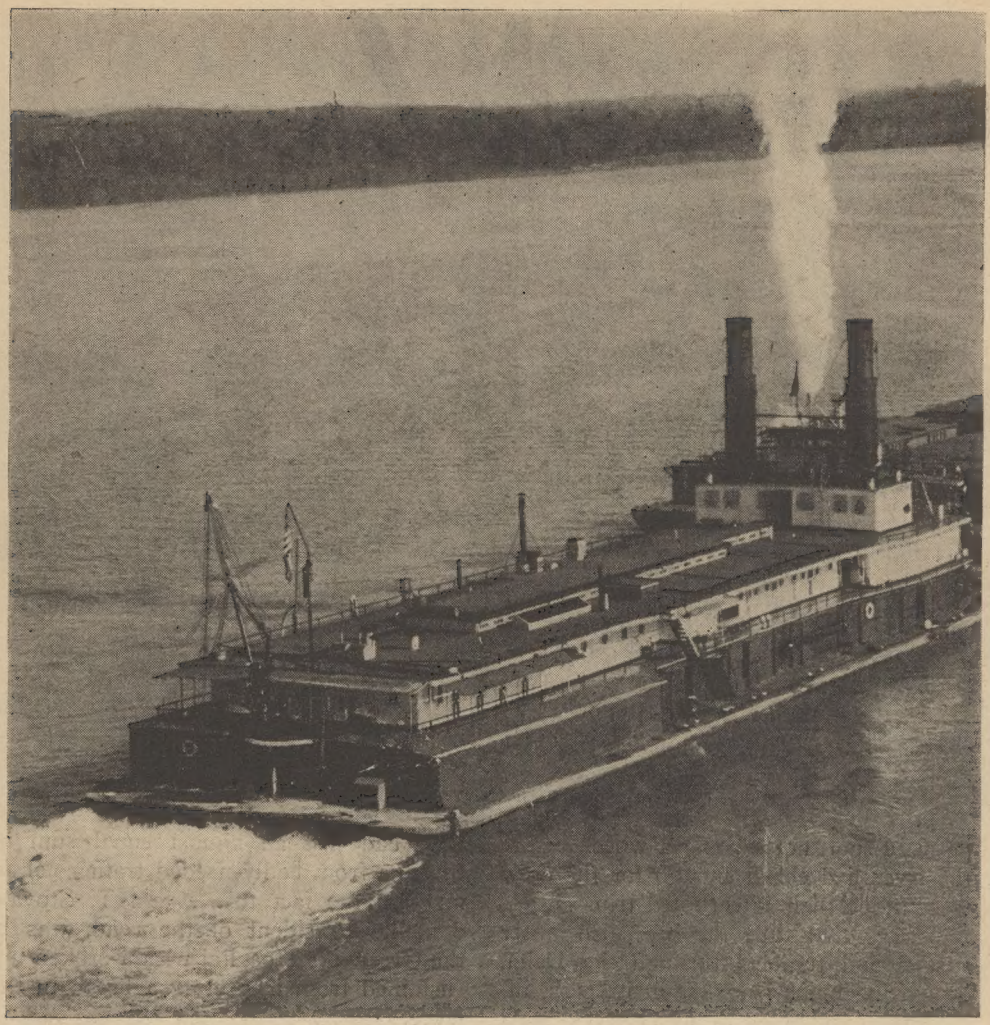
desolate spot, not turning a wheel, before the river had ebbed enough for the crew to continue their interrupted trip.

During that time the brownish water surged and tumbled through the Delta, destroying much property in its path, including forty miles of C&G tracks. At length the Mississippi, tired of rampaging, returned to its bed for another sleep—well, at least for a cat nap. Repair crews began rebuilding the railroad. No sooner had they started than the annual June rise of Ole Man River brought the muddy giant once more through its banks; and most of the rebuilding had to be done over.

Consequently, it was not until July 23rd —fully three months after the last train had pulled out of Greenville—that through service was resumed. When C&G officials itemized what the deluge had cost them, they were staggered to reach the total of half a million dollars. On top of that, they had lost an almost equal sum in revenue from badly-needed traffic, not to mention the fact that Adam T. Stovall, dynamic President of the road, was in the Greenville Hospital with a broken hip sustained from inspecting a break in the levee.

THE FLOOD of 1927 was but one incident in the stormy career of a line that has survived three receiverships, four changes of name, a change of gage and a near-abandonment, as well as numerous floods.

At present the C&G has 169.3 miles of main stem. Adding to this 47.2 miles of spur trackage, including a two-mile connection with Greenwood Air Base, gives a total of 216 miles of operated track. Leaving Columbus, the road shoots through Blue Cut and up Blue Cut Hill, about a one-percent grade, then curves west through flat terrain to West Point,



COVERED BARGES chaffing at her knees, a Mississippi towboat kicks her way toward Memphis. C&G has cooperative rates with Federal Line on shipments to points along the river; loses considerable traffic to river carriers bringing bulk commodities downstream from Pittsburgh

crossing the yellowish Tombigee River near Columbus. From there to West Point the ground is mostly level, with an occasional rise. To the west it becomes steeper, while numerous small farms dot the landscape, each controlling a few acres of "bottom land" on which is planted a skimpy cotton crop.

Here and there little clusters of second-growth pine which have escaped the lumberman's buzz-saw stand beside the track. West of Pheba, Maben Hill drops trains down into the busy lumber town of that name, from which they scud through mostly cotton country to Winona. Once cotton was undisputed king in this section, but now peanuts, oats and barley also can be seen from train windows.

West of Winona the famous Mississippi Delta begins. This is the South's richest farm area, producing more cotton than any other locality. The C&G hauls plenty of white bolls when the season is on, and everywhere your eyes will rest on broad

UNDULATING out of Columbus, C&G's 51 begins her run to Greenville

fields of fluffy white, with backs of brown and white human beings, both sexes, stooped to harvest the money crop. At nearly every station you can see a gin, a loading platform and perhaps a cotton warehouse or mill, idle during the winter and spring but the most important spot in the county during the cotton season.

Photo by W. A. Traylor

ROGERS Ten-Wheeler, built in 1899, hauls Delta Route passenger traffic. Originally she ran on the neighboring Mobile & Ohio

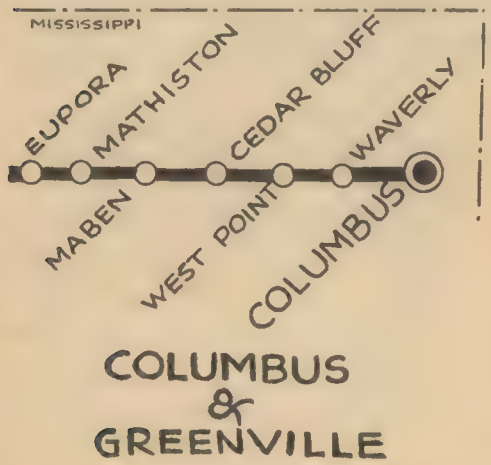
Your train crosses three streams in this territory, the treacherous Big Sandy near Malmaison; the wide and muddy Yazoo at Fort Loring, over the road's longest bridge; and the smaller Sunflower, just east of Indianola.

The company has twenty-eight locomotives, of which twenty are on the active roster. Three are used in passenger service, thirteen in freight and four in switching. Largest of these units are the six 500 series MacArthur types acquired from the defunct Ft. Smith & Western. The C&G also owns twenty passenger cars, 383 freight cars and eight cabooses, plus a pile-driver and other work equipment. Freight stock includes a score of old wooden gondolas bought from the Chicago & Illinois Midland, several wooden and steel flats, a few small boxcars converted from reefers, and about 300 other boxcars. A total of some five hundred men and women are on the payroll.

Like nearly every other road in the country, Columbus & Greenville passenger business is secondary to its freight. Best passenger year was 1932, when revenue from that source totaled $57,821. Ten years later the figure had dropped slightly, to $57,013, this being attributed to highway competition. The railroad competes with a concern operating half a dozen busses daily on tighter schedules than the C&G swank *Deltan* can manage.

The *Deltan* has Tuscan red coaches, air-conditioned since 1938, fitted with white seat covers and, on week-ends, offering porter service. During midweek this train is usually run as a motor passenger, but on week-ends a gleaming little Rogers engine couples onto three or more coaches and scoots across the Delta to Greenville. In bygone years the C&G ran three varnished trains a day, carrying a through sleeper between Atlanta and Greenville; but now it barely manages one, in addition to 109 and 110, the mixed run.

Heading the freight list is forest products, the revenue from one year's haul being well over a quarter-million dollars. Next comes cotton, followed by gravel and petroleum. However, oil shipments over the C&G have declined more than 80 percent since a pipe-line diverted the small road's once-lucrative oil traffic to the Southern at Meridian.



AS FAR BACK as 1854, enterprising Southerners envisioned an iron trail stretching from Atlanta (then called Marthasville), Ga., to the Pacific coast via Birmingham, Ala.; Greenville, Miss., and the Texas & Pacific at Texarkanna, Ark. This short route for east-west traffic would have made the terminals of Atlanta and Texarkanna among the busiest in the land. But for the next few years nothing much was done about it.

Then Gen. John B. Gordon came into the picture. Gordon was a former Confederate Army officer. After studying the ill-starred plans of previous promoters, he organized the Georgia Pacific Railroad Company on November 10th, 1881, taking over the charters of three defunct railroad corporations—the Columbus, Fayette & Decatur; the Elyton & Aberdeen and the Georgia Pacific. The new outfit, backed financially by the powerful Richmond & Danville (now Southern), at once began building a steel highway from Atlanta to the Mississippi River.

A narrow-gage road absorbed by the Georgia Pacific was older than the rest of

Photo by C. W. Witbeck

2:55 P. M., and the *Deltan* stops at Eupora, fifty-five miles out of Columbus. She takes six hours and ten minutes for her 168-mile trip to Greenville

Photo by O. W. Witbeck

TWO Mobile & Ohio Ten-Wheelers furnished the boiler and running gear for the 216. She's a favorite with "Major" Hoople Lynch and "Grandpa" Brewster, senior engineers of the C&G

the line, this road being the Greenville, Columbus & Birmingham. Its history dates back to 1878 when tracks were laid between Greenville and Stoneville, fifty-nine miles. Later it was extended to Bogue Phalia on the Sunflower River near Indianola, and eventually to Greenwood.

Three engines, Nos. 1, 2 and 3, and possibly a fourth were bought and put into service. The first of these was an old 0-6-0 with wide-flanged wheels which threw the rails continually out of alignment. This situation did not please the customers nor make life easy for the roadmaster. Since the roadbed was soft, the engine swerved, dipped and plunged as she staggered along, to such an extent that she involuntarily tooted her whistle now and then.

A gentleman named Huntington, who had fostered the fledgeling railroad, was not too sure he didn't regret it. On one occasion at about dusk, he paced the depot platform as the evening train labored in after an unusually long absence from town and watched the goat approach Greenville across the commons, rolling and pitching. Huntington turned to a friend and remarked:

"All that engine needs to be a thing of life is a pair of horns and a tail. She already has the gait and the bellow."

The story is told that in 1878, the year narrow-gage began operation, a certain engineer refused to hit a brown bear cub which was playing fearlessly on the track. He stopped his train and drove the fuzzy little beast into a sugarcane thicket. Then he proceeded again at a pace so leisurely that, according to the *Delta Democrat,* a passenger who lost his hat might dismount, retrieve the head-gear and easily reboard the coach.

Less fortunate than the cub was the gray mule which, years later, met a sad fate on Eupora Hill, some fifty-five miles west of Columbus, Miss., endangering the life of a C&G brakeman named Roy Mills. It seems that Roy was perched on the pilot of a freight hog headed down the grade, enjoying the breeze and scenery, for the weather was perfect, when a mule tried to cross the track in front of him. Exactly what happened to the mule need not be mentioned here.. When the engineer

managed to stop the train, at the foot of the incline, Roy scrambled off, badly frightened but unhurt, vowing never again to ride a "cowcatcher" downhill.

Excursions were often run to Stoneville, the narrow-gage road's first terminus, and later to Bogue Phalia. These were mostly for hunting and fishing parties. Though the roadbed of the Greenville, Columbus & Birmingham was narrow, the cars were as long as standard units. This produced an undulating effect when the train was in motion, causing seasickness. Passengers found that by riding the flatcar placed behind the engine, they could avoid losing their meals. So the flatcar was equipped with a canvas top and seats, while the coach was used only as a retreat when sparks from the engine set fire to the canvas roof. Consequently, a ride over the GC&B was anything but dull.

AFTER reaching Birmingham in 1883, builders of the standard-gage road paused for a long breath; and four years later they pushed as far as Columbus. From there on the going was easier. The builders utilized the GC&B roadbed for its fifty-five miles, adding a third rail and operating standard-gage trains over this stretch. Another factor which eased tracklaying problems was the flatness of terrain, unlike the country west of Birmingham, where they'd had to hack and tunnel their way with painstaking effort. Rolling Delta farm lands offered but slight re-

Photos by C. W. Witbeck

ABOVE: Master Mechanic W. A. Traylor exhibits a pair of cast iron wheels removed from a C&G camp car. Mounted on a dummy line axle, they will be preserved at Columbus

BELOW: A drink for the 303

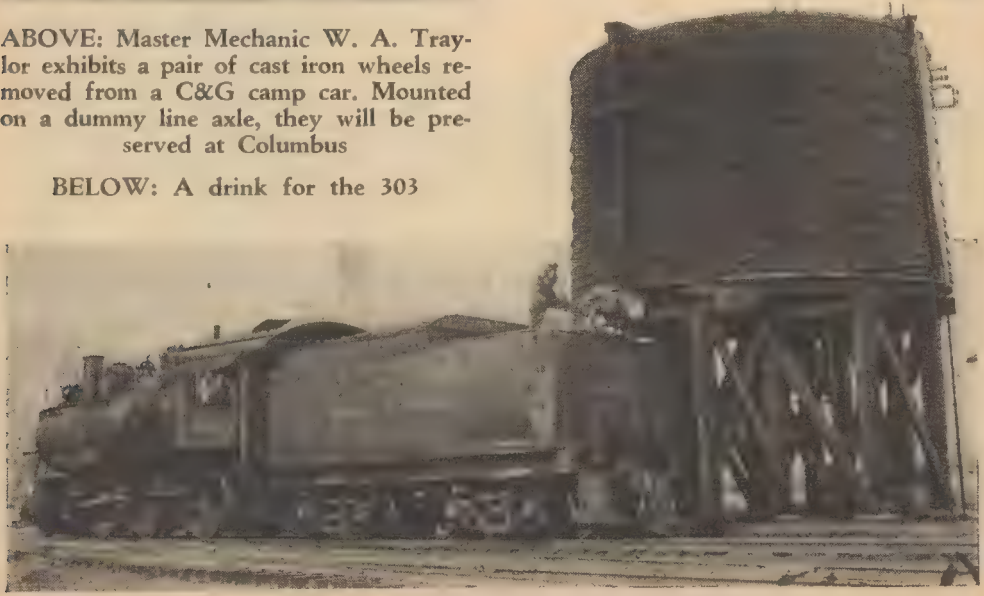


Photo by J. H. Rigby, General Manager, C&G

SHE couldn't keep rolling along. Flood waters marooned this eastbound freight on the night of April 21st, 1927. Yellow caboose sported diamond insigne with a red heart

sistance to the construction forces headed by Chief Engineer A. Riccio. The short and not too steep hills near Eupora, Maben and Cressona were conquered with little trouble, and track-laying went on rapidly.

When construction was begun on the line between Columbus and Greenwood, crews worked out of both points, eventually meeting at Winona in August, 1889. A few days later the first through passenger train left Columbus with Graham Jones at the throttle. There were two baggage cars and two coaches, pulled by one of the company's seven passenger engines. These seven were Rogers-built Atlantic types. At that time the line owned a total of 67 engines, 33 passenger cars, four combines, 568 platform cars, 150 coke and stock cars, 1266 ore cars, ten dump cars and twelve cabooses.

A branch was built to Leland, a few miles from Stoneville, its depot being a boxcar still on the rails. Frequently this station was moved about the town. On one occasion the Superintendent, J. A.

HOL' THAT BAR; lift them rails. This pile driver went to work west of Greenwood when the Yazoo River receded after the flood of '32

Pigford, visited Leland but could not see the depot, and asked his Assistant Super, a man named Hatcher, where it was. Hatcher put the same question to a Negro boy.

"Yestiddy it were right along here some place," said the lad, "but today it's liable to be down at the compress loaded with cotton."

The Richmond & Danville, which had acquired control of the Georgia Pacific in 1888, declined to finish the road into Texas as originally planned. Thus John Gordon's dream of a transcontinental route through the South was shattered, and the line became but the western branch of a larger system. The Georgia Pacific's first Superintendent was Sam Purcell, an elderly official who stayed on the job only two years, when the Southern took over.

Railroads in the new line's territory were rather scarce. One was the Mobile & Ohio (now GM&O), which connected with the GP at Columbus and crossed its lines at West Point. A northern extension of the New Orleans, Jackson & Great Northern (now Illinois Central) bisected the GP at what is now Winona. The Yazoo & Mississippi Valley lines of the IC crossed the smaller road at Moorhead and Elizabeth.

The Moorhead crossing was the Yazoo Delta Railroad, colloquially known as the "Yellow Dog," which had considerable mileage in the surrounding area. This pike was publicized by W.C. Handy, the composer, in his "Yellow Dog Blues." When Mississippi Negroes bound for Moorhead were asked where they were headed, the usual reply was "I'se goin' where the Southern cross de Dawg." In course of time "de Dawg" was absorbed by the growing Yazoo & Mississippi Valley and eventually by the Illinois Central.

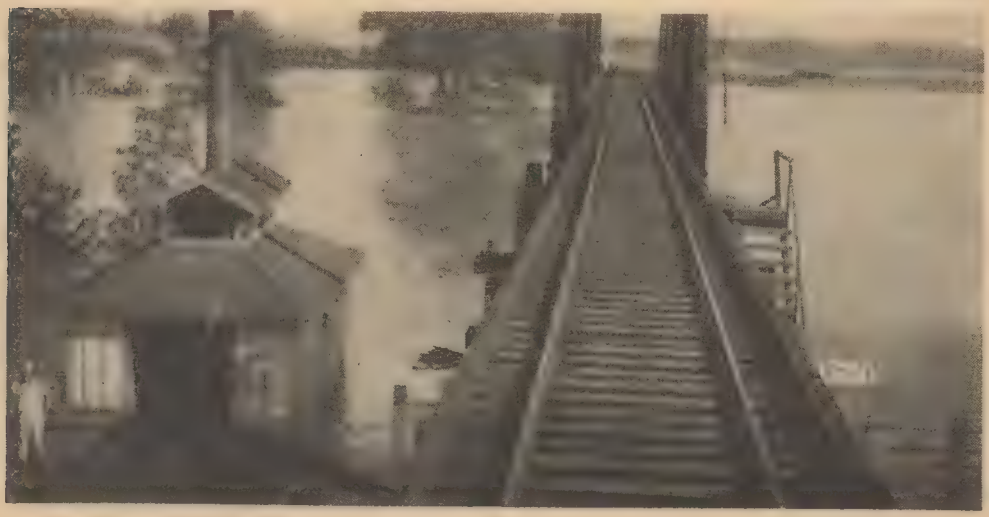
In 1893, at the time of a national panic, the Georgia Pacific was thrown into its first receivership, and emerged a year later to find itself owned by the newly organized Southern Railway.

WHEN Chief Engineer Riccio and his crew laid the rails down Cressona hill, two miles west of Winona, they had little regard for the hapless brakeman who would set the "armstrong" brakes on freights coming down the 1.86 percent grade. For more than eight miles into Carollton, at the bottom of the long hill, flanges scream as hoggers nurse their trains down the steep descent.

One night about fifty years ago Engineer Jack Cheatham and his fireman,

SUNFLOWER RIVER became a misnomer when the stream swept over the rails of the C&G at Baird, Miss., in the Spring of 1927

Photo by J. H. Rigby



John Brown, were coasting down the grade with a heavy freight. Airbrakes and automatic couplers were not standard on the road back then, and the shacks were out on top "clubbing 'em down." Somewhere on the hill Jack lost his caboose, but as the night was black and he didn't look back, he failed to discover it. Neither did the colored head brakeman, busy twirling brake wheels up front. A short distance farther, another segment of his train parted company from the engine—but not for long. On the steep grade it gained momentum. The head brakeman was riding the last car of the cut behind the engine; and when the second section of the dissected freight thundered downhill it rammed that car, splintering it with a mighty clatter and injuring the Negro so badly that he died on the depot platform at Carrollton.

Fireman Brown escaped unhurt, but was promoted to hoghead a short time afterward, ran through an open switch at Pheba, overturned his engine, broke both legs, and never recovered.

Now that the Southern had taken over the line, the big system began using its second-string locomotives to replace the engines which the GP had bought from the Georgia, as they wore out. Among these former Southern engines were No. 932, a ten-wheeler. Capt. Dan Mosby, who ran her, was retired recently with fifty-three years of seniority and is living in Columbus. Others included Nos. 1033, 550 and 3861, most of them Rogers engines purchased by the C&G when that company acquired the line.

At the same time the Southern extended the Georgia Pacific. During the 1890s branches were built to Nappanee, Reitchie, Belzoni and Webb, all in Mississippi. At Webb, competition became keen with the Yellow Dog line. Sam Spencer, then President of the Southern, planned to lengthen the Webb branch to Memphis, Tenn., to cut in still further on the Yellow Dog's freight business, but "de dawg" got wind of this in advance and extended its own route through Moorhead to Lake Comorant, Miss., to forestall any such move on the Southern's part.

Plans were also afoot to extend the Reitchie branch to meet the Benzoni branch, thus forming a loop. But the untimely death of President Spencer in 1907 put an end to this project as well as several more pretentious ones. With Mr. Spencer died all hopes of the C&G emerging as a large carrier. The finishing touch came in 1923 when the rails on various branches were ripped up and sold as scrap, without even the excuse of wartime emergency.

ONE misty October morning in 1900 Engineer Thomas J. Card and his Negro fireman, Frank Craddock, were making up the westbound local freight

Photo by J. H. Rigby

BIG SANDY took a heavy toll of piles and bents as it flumed through this crossing in 1932. Normally its waters occupy a small portion of the valley floor

"NEXT TO FIRE," wrote Mark Twain, "there's nothing so devastating as a Mississippi River flood." To which C&G officials said "Amen" when they got around to scraping the mud off the 168 and 172, marooned near Greenville in '27

with engine 550 on the house track at Columbus, Miss. It was 5:30, and No. 73, the through freight from Birmingham, was due.

But the runner on the hotshot that morning, J. T. Parrish, had been on duty too long and was asleep at the throttle.

PUT AWAY the John-boat and get out the section car. C&G service is back to normal

He roared down the main stem from the Northeast, not whistling for the yard. The switch at that end of the "garden" was set for the passenger depot lead. Parrish and his engine, No. 27, roared past the wye, still at full speed. Just what the fireman and head brakeman were doing, not to have noticed the danger, will probably never be known.

Tom Card's fireman saw the approaching freight and yelled for Tom to jump. Then, at the engineer's command, he dove through the gangway onto the cinders. Tom himself attempted an exit through the cab door. The door was narrow and it stuck, so he rushed to the gangway. But now it was too late. The oncoming 27 rammed his lighter engine a mighty blow, knocking the tank over onto the roof of the 550's cab, and Tom perished, still clinging to his hand-rail.

Parrish and Craddock were unscathed, but the fireman on the fast freight went to glory in the twisted ruins of engine 27. The impact shot the rear of Tom's six-car cut through the house track into the white waiting-room, nearly demolishing it. Later, Card's son fired on the Columbus & Greenville for eleven years, then quit the road and now runs a shoe-repair shop in Columbus.

Another engineer, Graham Jones, who pulled the first Georgia Pacific passenger train out of Columbus, met a fate similar to Tom Card's, at Moorhead twelve years later. Graham was pulling train No. 11, the afternoon passenger, from Columbus to Greenville, which made connection at Columbus with the Southern's train of the same number. The engine was No. 3861, a trim, high-wheeled American type, a relic of other Southern divisions but still a fast stepper. Charley Lance wielded the scoop.

Graham was highballing through the bright April sunshine at a good clip when the pony-truck wheels hit the Cotton Mill

switch just outside Moorhead depot. Something went wrong. The old girl suddenly reared up on her haunches, then plunged over on one side, shearing the cab completely off and destroying the large pilot and side-rods. Neither Graham nor his fireman had the ghost of a chance. Curiously enough, the tall stack and the headlight were hardly scratched.

Some years later Roy Mills, whose adventure with the mule has already been related, was braking on the Webb branch, which was little more than a lumber spur. The Southern in Mississippi kept a crew hauling cars from the main stem at Itta Bena to the mills along the route. Roy had been ordered back to do a job of flagging and, it being a balmy day, he became drowsy. No trains were due. Since his wait was supposed to be a long one, Roy decided to pass the time with a nap, and, ignoring a well-known safety rule, lay down on the track. Soon the heavy-lidded flagman was lost in dreams.

An extra freight, skippered by Conductor Wilbanks and driven by George Miller (both of whom are in C&G mixed-train service today), rounded a curve nearby. Roy slept peacefully, he admitted later, unaware of threatening doom. Luckily, Wilbanks happened to be riding the cab and looked out the left window as the extra took the curve and saw a figure on the track ahead.

"My God!" he screamed. "It's Roy!"

The engineer sounded a terrified blast on the whistle. The sleeping beauty awoke instantly and had barely scrambled off the track when the train roared over that very spot. It was Roy's second brush with Death.

FIFTY years ago the line now known as the C&G solved its most pressing financial difficulties with money advanced by its parent company, the Southern, and set about to put itself on a paying basis. There was plenty of business: cotton to be shipped to market, lumber and turpentine from the forest dotting the eastern section of the line, and a small amount of merchandise for the rapidly growing towns of West Point, Greenwood, Moorhead and Greenville. Passenger traffic,

ABOVE: Columbus & Greenville locomotives become chuffing Christmas cards a week before the holiday. No frozen injectors dampen the spirits of Mississippi engine crews

RIGHT: Although lumber is the principal source of C&G revenue, most of the road's stations are built of enduring brick. This long, low structure at West Point is typical

Photo by C. W. Witbeck

ROAD'S END for both the Columbus & Greenville and the Southern Railway is an L-shaped depot at Columbus

too, increased rapidly. Soon the dispatchers were handling three varnished runs daily, a through freight and three locals each way.

At that time, freight went by river as well as by rail, and the railroad was forced to compete with steamboats on the muddy Tombigbee River at Columbus, the Yazoo near Moorhead, and the Mississippi at its western terminus. Most of the railroad's bridges are draw spans, built to allow the passage of the hulking side and stern wheelers.

Not all the commodities were agricultural, however. On one occasion, the Southern's No. 15, a passenger train, came into Columbus with four crates of lions as revenue freight. The news soon leaked out, and Engineer Payne Harmond and Hostler Sam Tucker crawled into the baggage compartment to view the lords of the jungle. The rest of the baggage had been unloaded and the car was dark. Harmond struck a match, held it to one of the cages. A lion inside, aroused by the flickering light, rose on his hind quarters and emitted a mighty roar. The frightened men leaped from the car and made long rapid strides from the vicinity.

Malcomb McCaskill, retired C&G master mechanic relates an incident which occurred during the Southern regime.

"I was an engineer at the time," he recalls, "and had stopped my train at West Point, eighteen miles west of Columbus. A fireman from the M&O (GM&O) asked me to let him deadhead to Columbus, so I told him to hop on."

The stranger climbed into the cab and McCaskill set out for Columbus. When they had gone a few miles, the left side-rod sheared off and slashed through the side of the cab, striking the deadheading fireman.

"He fell to the floor," McCaskill says, "and I thought sure he was a goner."

But the man later recovered and returned to work on the "Molly O," as the M&O was then called.

A less happy ending must be written to the tale of two engine crews who were doubleheading on freight train No. 51 in the early 1900s. The runners were Louis Coleman and Payne Harmond. They were dropping down Cressona grade, on which Jack Cheatham's head shack had lost his life a few years earlier, when a cow loomed up suddenly in the headlight glare, near Carrollton. Before Lou could "big-hole," they had slammed into the animal, jamming her under the lead pilot. Both engines rolled over, killing the two engineers and Fireman Blackwell, on the first locomotive. The brakeman in the first cab and the fireman in the second, both Negroes, luckily escaped injury.

Thirteen, a number supposed to be unlucky, figured in the death of four Columbus & Greenville men at milepost 13 in 1921, a year whose digits total thirteen. It seems that a doubleheader pulled by Will Woodall and Foster Griffin, with Frank Davis and Sam Armstrong, colored, as firemen and Fred Aycock as head brakeman, was backing up toward Columbus, having come from West Point, which had no wye, the engineers being unwilling to use the Illinois Central's wye.

Just behind the two engines were several loads of coal, followed by mixed freight. When the train reached milepost 14, near Stephens station, it was rambling at a fast clip—too fast, in fact. Both locomotives and two coal cars jumped the rails. One engine turned over, killing Will instantly and smothering Fred beneath the coal in her tank. Both firemen also went to glory. The coal cars nose-dived down a slight embankment, one coming to rest atop the boiler of the overturned engine. After the dust had finally settled, four good railfaring men were found to be dead and Engineer Griffin seriously injured.

WHEN the first World War came along, this pike, along with the others, was taken over by the Government. Nobody objected to that. But in 1920, when Congress returned the railroads of the nation to their owners, and the future C&G was dumped back into the lap of the

TYPICAL of the equipment which Adam Stovall found on his hands when he took over the bankrupt Columbus & Greenville was this old wooden coach. She's since done her bit for the scrap-metal drive

DELTAN runs as a motor passenger job when traffic is light. Power unit and trailer are painted Tuscan red

Southern, the big system promptly disowned its stepchild, refused to have anything further to do with it. The reason was painfully clear. Not only was the little road bankrupt and its bonds worthless, but its equipment and roadbed were only about one jump ahead of the junk man.

Pushed out into the cruel cold world, the unwanted streak o' rust had its charter amended November 6th, 1920, to permit its independent existence under the name of Columbus & Greenville Railroad Company. As such the new corporation tottered along for seven months. Then on June 4th it collapsed into the arms of a receiver appointed by the Federal District Court.

The receiver, Adam T. Stovall, was a Confederate Army captain's son, a lawyer who had built up a substantial practice at Okolona, Miss. Tall and energetic, with a long, narrow face and thin resolute mouth, he studied the discouraging annual reports and looked over the dismal array of rolling stock. There were a few locomotives and cabooses, all badly worn, also a few handcars, and that was about all. The road had been borrowing freight and passenger equipment from other companies. A pile of bills for rental of these cars lay on Stovall's desk.

Nor did a roadbed inspection brighten the picture. The receiver found battered, sagging rails and light ballast. The stations reminded him of pictures he had seen of Western ghost towns. What little traffic the road had left could scarcely be handled with the pitiable equipment that cluttered its right-of-way.

Then the quiet lawyer from Okolona began doing things. He set to work to repair the track and bridges, repainted the depots. He visited every town on the line, urging citizens to give their business to the railroad. He stressed the road's economic importance to the communities it served. He gave transportation pep talks. He woke up citizens of the Delta to the fact that their welfare depended in part upon the Columbus & Greenville Railroad. Many listened and believed.

Slowly, life seeped back into the veins of the C&G. Less red ink was used in reckoning its accounts. At length came the golden day of August 6th, 1923, when bluebirds sang a merry tune. The receivership was ended! Three public-spirited Mississippians, G. Y. Banks of Columbus, Henry Hart of Winona and Alf Stone of Dunleith, bought the property for $35,000, reorganizing it as the Columbus & Greenville Railway Company, and elected Mr. Stovall as President.

GIVEN a free hand, the former receiver began to do things in a large way. First he purchased three hundred new and much-needed boxcars—signing the notes for them himself—to offset the steep daily charges of rented equipment. Then he acquired several all-steel coaches from the Reading Line to supplement the old wooden ones. From the Mobile & Ohio

he bought six ten-wheeled engines, second-hand.

Having solved his most urgent motive-power problem, Mr. Stovall next sought to keep the road's expenditures within its meager earnings. This proved more difficult than signing notes for new equipment. The C&G was cursed with various expenses which business men regarded as unnecessary. For one thing, Big Sandy Creek, near Greenwood, Miss., had the habit of washing out a railroad bridge every spring or so, thus causing the road's maintenance forces and auditors much unhappiness. This difficulty was not cleared up until about ten years ago, when breakwaters were built to hold the turbulent stream in check. Similar sources of annoyance were the many canals dotting the right-of-way—canals which overflowed their banks every time the rainfall was heavy, thus costing bothersome sums as well as interrupting rail service.

When President Stovall died in 1938, to be succeeded by his 38-year-old son, Robert C. Stovall, also tall and slim and also a lawyer, the C&G was thoroughly solvent. Not only had the company paid all its debts but also had acquired additional second-hand locomotives—six from the Atlanta, Birmingham & Coast, six from the FS&W, and had laid new eighty-pound rail, especially in the hill section around Winona, to replace much of the old sixty-pound steel. Under C&G's present management, from ten to twenty miles of new rail have been added each year, which has helped greatly in reducing accidents and increasing speed.

All in all, the C&G isn't faring badly. Its freight receipts of about $640,000 in 1932 were more than doubled ten years later. True, less than carloads lots business has gone mostly to the highways, while express receipts also have fallen sharply, but the company still manages to meet expenses and put a trifle aside for a rainy day. Though the C&G has never paid a dividend, at least it is well out of the red. Current annual income totaling $1,528,676 compared very nicely with total outgo of only $1,233,644.

Biggest threat to C&G's freight traffic is the sprawling Federal Barge Lines system. Snaking down the Mississippi, Illinois and Missouri rivers from Minneapolis, Chicago, Kansas City and St. Louis, the water carrier grabs off a sizeable chunk of the road's north-south and east-west freight traffic, plus a small amount of south-north traffic. The barge system is owned by the Inland Waterways Commission. It maintains extensive facilities at Greenville and thus is enabled to capture the railroad's traffic from the states bordering its system.

Connections are made at Cairo, Ill., with Ohio River steamers bearing coal, iron and manufactured products from Pennsylvania, especially Pittsburgh, destined for Greenville, and others handling assorted unperishable merchandise from

COLUMBUS & GREENVILLE hack has more exits than a woodchuck hole

Photos on this spread by C. W. Witbeck

WATERBOY for the Columbus & Greenville is this company tank car

the inland cities. Iron, steel, and steel products form the bulk of the revenue, as most coal mines are located off the river and adjacent to rail lines. Traffic is also derived from the ports of Cincinnati, Ohio, and Louisville, Ky., which ship goods that otherwise would move by rail through Birmingham to Columbus and Greenville.

South of Greenville, sugar, tea and coffee is handled by barge to the river port, which robs the C&G of a lengthy haul from Winona to Greenville, after the merchandise is taken from the Illinois Central at the former point. Since barge rates are extremely low, shippers usually take advantage of the water carrier when speed is no object; a blow to the C&G.

The railroad and barge line have co-operative rates from C&G stations to Mississippi River points served by the water carrier, and C&G cars are unloaded on the Federal Line's wharf at Greenville. The barges are usually powered by Diesel tugs. Low pay of barge men and cheap motive power plus tax-free right-of-way enables this carrier to offer low rates.

What will happen to the Columbus & Greenville after the war is anybody's guess. Meanwhile, it is doing well and shows indications of being able to carry on in the future, come prosperity or depression. Travelers can count on a fast ride through the rolling Delta country behind a trim Rogers ten-wheeler.

LUMBER-HAULING wooden flatcar. Treated ties for scores of roads begin their journey on the C&G

JIM CALLED to him: "There's a brother I want you to meet"

The Man Up Ahead

Jim Moran Wanted His Son to Become an Engineer Like Himself—but Destiny Very Seldom Gives Us What We Desire Most

By JOHN JOHNS

Conductor, New York Central

COAL PILED HIGH on her tender, the Atlantic-type engine backed slowly into the gloom of the glass-roofed Chicago terminal trainshed. Ben Bradford set down his scoop and opened the firebox door.

"It's the last time I'll be coming in here," he said with decision. "I can kiss this depot good-bye. I've had enough of the Chicago & Western."

Jim Moran, the engineer, barely heard his boomer fireman above the din of the busy passenger yard. He peered out the cab window into the blue haze of the station shed, measuring with his eye the distance to the cars that would constitute his train, and closed the cracked throttle. He then pulled in his head and turned to Ben to continue a dispute they had begun at Clayton, western end of the Chicago Division, a hundred and forty miles distant.

"But why do you have to quit? I thought you had learned your lesson."

Ben stood still with the long hook in his hands. "What lesson? If you mean the meals I missed, that's nothing. A boomer has his ups and downs. It's part of life. Sure, there was times when I was broke. But what of it?"

"A rolling stone," Jim remarked. "Hungry and homeless most of the time."

The wanderer laughed. "Can I help it if I get itchy feet and like to travel?"

"You have a good job here, Ben—a regular passenger run and a chance to become an engineer. You're getting older every day. A few years more and you'll be too old to land a job firing."

Jim glanced out the window. A car inspector stood at the baggage car, the head end of Number 19, the *West Coast Express,* signaling him to couple on.

With a cushioned jolt the buffers met. There were eight cars. When the engine moved forward to test the coupling, the inspector bellowed, "Okay," and disappeared into the space between tender and baggage car to couple up the air and whistle hoses. The pump on the engine raced and throbbed, accompanied by a long shrill peep from the communicating whistle. Soon the inspector reappeared, struck the tender a resounding blow with his hammer, and grinned at Jim. Signaling for the engineer to set up the brakes, he walked back along the train.

The trainshed, filled with smoke and steam, was hot and stuffy that early Wednesday evening in June, 1905. Jim stepped down from his platform, edged around Ben, who was hooking over the fire, and dipped up a drink of water from the cooler, packed in ice in a wooden container on the tender. A minute later he refilled the tin cup and watched his companion at work. The two men were about the same age, thirty, and Jim was a six-footer, slim-waisted and broad-shouldered. Ben was almost as tall but somewhat thinner, and gray about the temples. Booming through the years had exacted its price.

The fireman pulled out his hook, tossed it back against the coal gate and slammed the firebox door.

"Yeah, sure, I got a regular passenger job, but what's that?" Ben scowled. "I've been on this pike over three years. On a lot of other roads I'd be a runner by now.

If I stick here I'll have to wait a coupla more years before I'm set up. Nope, I'm not gonna wait—"

"You'll be sorry some day," Jim predicted, filling his pipe.

"Sorry for what? You've been banging around here since 1892 and what have you got? The extra list! If it's cut two men, you'll be back on freight. Why, hell, Jim, you'll be another ten years before you hold a regular passenger run. Out West things are different. Why, I—"

THE COMMUNICATING whistle in the cab peeped four times, a signal for Jim Moran to release the brakes, coming from the inspector in the last car. Jim swung the shiny brass airbrake handle around and was staring at the gage when a voice called up through the gangway:

"Hey, Moran!"

The engineer peered down to see his conductor, "Shorty" Bloomfield, and two other men standing on the station platform. The strangers were shabbily attired in unpressed serge suits and shapeless soft hats peaked at the top. One carried a small bundle wrapped in newspapers, the other a cardboard suitcase. Both were obviously boomers. Ben Bradford had looked like that when Jim first saw him.

"Say, I've got a couple of brothers here who want a ride," Shorty explained. "See if they're okay, will you?"

"Sure," said Jim, and climbed down.

The elder of the pair, a man just past forty, red-faced and slightly bald, stepped forward with extended hand.

"Ned Wilson's my name. I'm an engineer. Here's my stuff. B. of L.E."

Jim was a member of the Brotherhood of Locomotive Engineers himself. He scrutinized the receipts and nodded.

"Glad to meetcha, Wilson. My name's Jim Moran." He grinned to the conductor. "Shorty, he's okay."

The skipper nodded. "How about this lad?"

He jerked a thumb at a well-built fellow of about twenty-five with a round face and merry gray eyes.

"Jack belongs to the Firemen's," said Wilson. "Best bakehead in the country. Never had a mill die on him yet. Brothers, meet my pal, Jack McBride."

Jim and Shorty shook their hands, and Jim asked: "Where you boomers bound for?"

"Work, brother, work—wherever we can get a job," Wilson responded, wiping the sweat off his forehead and neck. "Gettin' tougher every year. Think some time we'll head below the Rio Grande an' tackle a banana road. Me an' Jack lost out on the Canadian Pacific a few years back. We're whistlin' along with a redball job out of Montreal one night, with the head shack in the hay, an' we overlooked our hand an' get by a positive meet. We're runnin' against a string of varnish, see? Well, we swing around a curve an' kiss 'em! We was almost stopped an' we didn't kill anyone, but we sure made a hell of a mess."

"So you got the sock, eh?" Shorty prompted.

"Yep, we sure did," said Wilson. "Me an' Jack lived upstairs over a gin mill, so the Old Man figured we was a coupla rum pots and was half tanked the night we smacked up. I lost fifteen years' rights an' Jack lost two. The kid was all set to get married an' become an engineer."

"Too bad!" Jim sympathized.

Wilson shrugged. "What the hell, it was in the cards! We've been dodgin' our past ever since, mostly under a flag. A coupla months on a job, then somethin' pops up about our record on the CP an' we're off again. Gettin' a job depends on how busy the roads are an' how well we are known."

Ben banged the firebox door.

"Come down here!" Jim called to him. "There's a brother I want you to meet."

"Okay," said Ben, descending to the platform. "Sure is hot tonight. Got any fans down there?"

Jim introduced the boomers. When Jack McBride proffered his credentials, the C&W fireman scanned them with a broad smile.

"Good as gold! Many's the time I had to use 'em. Yeah, I hit the boomer trail myself for nine years."

"I'm extra glad to meet you," Wilson said heartily. "An' speakin' of warm weather, d'jever work out of Winslow?"

"Did I?" came the answer. "Three times. I almost got hitched up with a Harvey House girl there."

"Ever been married?"

Ben shook his head. "I ain't interested in settling down till I get to some pike where I won't have to wait till William J. Bryan is elected President before I'm promoted." And his face twisted in a sour grin.

"This rattler is crowded," the conductor warned, "If you boys want seats you'd better pile on."

"Right!" said Wilson. "And thanks! See you all some time. We're headin' for Denver."

"I'm heading West, too," Ben declared. "Pulling the pin after this trip."

THE TWO boomers followed the conductor toward the smoker. Jim climbed into the cab, with Ben on his heels. Ben opened the firebox door, squinted at the fire. At that instant someone struck the side of the tender on Jim's side of the cab. The engineer glanced down.

"Okay!" said the car inspector, standing in the six-foot space between the tracks, idly swinging his hammer.

"Kay-o," Jim nodded, waving his gauntleted hand. Ben busied himself with his fire, and the engineer enjoyed his pipe while waiting the few minutes before departure time. Presently the dim old train-shed echoed with cries of "All aboard!" Ben leaned out his window and looked back along their train. The communicating whistle in the cab peep-peeped.

Ben pulled in his head and said, "Highball!"

With the slack bunched, Jim grasped the throttle and gave it a notch, his free hand working the sander. High driving wheels gripped the rail. The exhaust boomed. Gathering speed with each revolution of the wheels, the Atlantic snaked the fast express through the network of yard tracks. A last lurch, off the ladder, now the main. Clear signals!

Jim adjusted the reverse lever. His engine settled to her gait. Back yards of houses lined the railroad embankment. Through open windows the engineer caught glimpses of suppers being prepared and eaten in many homes.

Then on over the bridge! The *West Coast Express* flashed by a street-car crowded with workers returning homeward from the day's toil. Now it was passing the factory district. There were rows of drab-looking houses with wash hanging on lines in rubbish-littered back yards. Slatternly women, prematurely aged by worry and poverty, stood at doorways or leaned out of windows, some calling to children at play in the cobble-stoned streets.

On sped the train, through the outskirts of Chicago itself and into the suburbs. Here the right-of-way was built on level ground. Streets in the smug little communities were wide and tree-lined. Instead of edging close to the railroad, the dwellings were set back some distance and surrounded by well-kept lawns—almost too well-kept—and flower gardens riotous with color. Each place seemed to have a stable on the property. This reminded Jim of his own modest stable at home in Clayton, and his roan mare, Cleopatra, and the many nice buggy rides through the countryside enjoyed with his wife.

The Chicago & Western as far as Desmond was four tracked, and on the track adjacent to the one used by the *West Coast Express* an accommodation train out of the big city was slowing for a station. Jim roared by the five-car local of wooden, open-vestibuled coaches, through the windows of which he could see passengers reading newspapers. Passing through the depot ahead of the slower train, he glimpsed an array of carriages waiting at the plaza to carry commuters home. In some vehicles sat ladies, attractive with white summer attire flaunting parasols, obviously expecting someone to arrive on the local.

Jim reached for the whistle rope and blasted his way through the fashionable suburb. On the slope of a rolling hill he

saw a country clubhouse. Croquet sets lay deserted for the night. On they swept through another town, and still another. For twenty miles Jim Moran swung the fast non-stop express through a dozen or so suburbs. All of them followed the same general pattern. Neat residences, green lawns and well-trimmed shrubbery. Some places, bespeaking the greater wealth of their owners, were more showy than others. Here and there cast-iron figures of animals, sometimes a Diana or an Indian, dotted the grounds.

Southbridge was a border town. From there on, Chicago's influence waned and the countryside took over. Instead of smart homes with hedges and lawns, the engineer saw farms and rural communities. Wheeling through West Canton, he contrasted the small wooden depot and public square with the suburbs he had recently passed. He caught fleeting glimpses of modest business establishments fronting on the square: a hay and feed loft, a blacksmith shop, a coal and lumber yard, a three-story frame hotel, a freshly-painted general store and postoffice, and a livery stable.

Folks did not come to places such as West Canton just to eat and sleep and show off their front lawns, Jim reflected. They truly *lived* in the community, spent their lives in it. Their fortunes, good, bad or indifferent, were entwined with those of the town. The ethical code formulated beside the crackerbox of the general store, in Sunday school, and at picnics in Deering Woods marched beside the boy and girl through life.

BEN BRADFORD banged the firedoor shut and stepped over to the right side of the cab. He looked at his watch.

"Boy, a minute to the good!" he cried. "And we're pulling an extra sleeper, too!"

"Feel it much?" Jim inquired.

"I got a big heel in her." Ben nodded toward the firebox. "Nothing like carrying a heavy fire."

Jim grabbed the whistle rope and blew for a grade crossing. He squinted at the setting sun, a ball of molten fire. Shadows were beginning to lengthen. In the fields he saw boys—and sometimes girls—driving home cows. In farmhouse kitchens, wives were cleaning supper dishes. Now the air grew sweeter. It was neither the soot-laden city stench nor the faintly promising breath of the suburbs. Jim, born and raised in a rural town, had always loved the wholesome smell of country air.

Star Lake. He held down the whistle rope. In a cloud of steam, smoke and dust he whizzed on through. The opera house was ablaze with lights in preparation for the evening performance.

Halfway to Somerville a farmhouse stood near the tracks. As Jim sped past he caught a glimpse of a buggy at the gate, and a bearded man with a black satchel hurrying up the walk toward the house. The engineer beckoned to Ben.

"There goes the doctor," he said. "I guess today's the day."

Ben grinned. "Yeah. I bet that young farmer will be glad to have a coupla kids running around. It's damned lonely living there, just him and his wife."

"That fellow worked his forty acres like he was a crew of men," Jim went on. "Remember how run-down the place used to be?"

The fireman nodded.

"He's been living there three years last March," Jim explained. "I was going east on Twenty-two the day they moved in. It was cold that day. I saw the local's crew unload furniture from a boxcar and carry it into the house. I watched them take an organ through the front door."

The *West Coast Express* was speeding along at fifty miles an hour. The Atlantic's exhaust was a steady roar. Reaching the whistle cord, he blasted for Somerville. Once more Ben was standing behind him. They saw a cluster of dwellings and a weather-beaten wayside station. Jim pointed to a small green house surrounded by a white picket fence. The porch was vine-covered. In the twilight a buggy was barely discernable. A grayish horse, hitched to a post, was nibbling at grass on the edge of what was supposed to be a sidewalk.

"You can tell it's Wednesday night," the engineer chuckled. "There's that young fellow again. He's been courting that girl for—let's see—I guess it'll be two years by now. I've seen her plenty of times. She's tall and rather plump and blonde and pretty as a picture."

Raven next; and as the train rolled around the curve, Jim Moran glanced to the rear. Their dining-car was brightly lit up. Pulling back his head, he waited for Ben to put a fire in the engine. Then he said:

"Our diner seems to be packed tonight. The sight of it makes me hungry. I didn't eat much in Chi. The wife is going to have fried chicken for me when I get home to Clayton."

"Mamie always was a good cook," said Ben, who had often been invited to the Moran home for meals.

BOTH MEN lapsed into silence. Jim leaned over the window sill, exposing his face to the rush of air created by the speeding train. He inhaled deeply, the pure country air filling his lungs. At length he announced:

"Desmond!"

Ben stuck his shovel in the coal pile, turned on the blower and half-opened the firebox door. Jim pushed in the throttle. His hand felt for the airbrake handle. He pinched on the brakes, preparing for the station stop.

The *West Coast Express* had glided into the depot. The platform was alive with passengers and townsfolk. Gaging the distance and speed, Jim expertly came to a halt with the tender spotted at the water plug. As usual, baggage trucks were pulled alongside the baggage car and hotel stage drivers bawled the attractions of their respective hostelries and scrambled for customers. Newsboys cried the evening edition of the *Desmond Times*.

Jim bunched the slack, while his fireman climbed back over the coal to take water. The engineer then lit his torch, picked up his long-necked oiler, and descended impressively to the ground. Three small boys with a dog gathered around in obvious curiosity. Having reached Desmond five minutes ahead of schedule, Jim now had ten minutes before departure. He liked to accumulate a margin of time in the event that something might be "warm" on the engine.

The station platform was barely long enough to accommodate eight cars, so the locomotive rested just beyond its cinder-filled area and yellow lamp-glow. The panting racer seemed impatient to get going again. Her pump throbbed and steam whistled shrilly as it left the safety valves. Gathering night was stabbed by a sharp gleam from the firebox door. The large oil headlight, beset with fluttering white moths, cast a limited beam on the rails. Outside its penumbra lay the broad prairie, teeming with crickets, fireflies and katydids. The croaking of young frogs poured in a steady stream from a pond or swimming hole somewhere out in the gathering darkness.

Jim Moran, inspecting the Atlantic from main pins to journal boxes, carried the blazing torch high above his head, while the three urchins followed his every move. Torch light brought into vivid relief the engine's sleek contour and attested the responsibility felt by the overalled figure to whom passengers referred as "the man up ahead." His engine! At every opportunity Jim personally tended his charge, saw to it there would be no failure that he could prevent.

After feeling the tender's journal boxes, the runner snuffed out his torch and climbed into the cab. He glanced at his watch, eased onto his seatbox. A loud

clang rent the balmy June air. Ben had dropped the manhole cover back into place and, with a screeching noise, was swinging the waterplug spout away from the tender. Instantly the three lads deserted the engineer. With their dog leading the way, they raced over to see what Ben was doing. Then, suddenly:

"All aboard!"

Conductor Bloomfield twirled his lantern in a highball signal. Jim reached for the whistle rope and blew two short blasts. Then he carefully notched back the throttle. With booming exhaust that hurled defiance at the road ahead, the Atlantic walked the train out of the station. No jar, no slack, only the deep barks from the stack, a sensation of unleashed power and the actual motion marked the train's getaway. Ben built up his fire. Then he crossed over to the right side.

"That's a neat little trick," he grinned. "You pull out of town without having to take slack."

"I have it bunched," Jim explained. "Learned that from Joe Cramer."

Joe Cramer was the first engineer Jim had ever fired for. Ben knew that, had often heard his friend speak of Joe Cramer, and flung back: "What in hell *didn't* you learn from that guy?"

JIM ADJUSTED the reverse lever. Now the exhausts were short and followed one another in quick succession as the express picked up speed. Night had fallen. A clear, warm, luminous, summer night. Stars studded the blue sky. The gleams from oil lamps in farmhouses dotted the quiet countryside.

It was after nine when the express thundered through Plainville and the village was deserted. A green-shaded light burned in the telegraph office of the wayside depot. Jim peered into the darkness that veiled Orchard Street. Later, when Ben was standing behind him again, the engineer said:

"Funny, there was no light in that house tonight. I think this is the first night it's missed in about eight months."

"You mean that place on Orchard Street, back in Plainville?" Ben replied.

Jim nodded. "Yeah, I often wonder what it was." After a pause, he added: "You see a lot of life when you're running an engine."

"Maybe it's some lady waiting for a wandering son or lover or something."

"Who knows? I'd say it was a young fellow studying law or medicine. I always give an extra long pull on the whistle when I pass the house."

"So I've noticed."

Thus the miles drifted by. Arriving at Clayton, his home town, Jim Moran uncoupled the engine and ran her to the receiving track, inspected her and left her there. Leisurely he and Ben walked into the roundhouse office, while the *West Coast Express* left town with a fresh engine. The train rumbled by a short distance from them. Ben tarried a couple of seconds to watch it. Then he rejoined his friend.

Filling in the work slip, Jim had it signed by the clerk and then requested to be marked up on the extra board. His mind was on Ben. Jim did not want the fireman to quit the Chicago & Western, and stalled for time to talk him into staying. Maybe a little outing would do the trick.

"I say, Ben," he invited. "What do you say we go fishing some time soon—maybe tomorrow?"

"Why, I— Sounds pretty good, Jim."

"Fine!" the enginer went on eagerly. "We both need a couple days off. Let's take along some grub and rough it. I know just the place."

"Okay with me." Ben turned to the clerk. "Hey, Clyde, put a man on my job for a couple days. We're scheduled off tomorrow anyhow. Yeah, for two trips." He slapped Jim on the back. "Pal, that was a swell idea!"

Jim also reported off; and the two men left the office together, their faces wreathed in smiles.

EARLY next day, before the morning-glories had folded under the hot sun, Jim went to the stable in back of his house

on East Street, hitched the old roan mare, Cleopatra, to the buggy and drove off. Mamie waved good-bye from the honeysuckled front porch. The engineer was in high spirits. He headed straight for the boarding-house on Depot Square where Ben was staying, and picked up his friend. Their next stop was Rock Creek, twenty miles to the north along a pleasant country road.

That was Thursday. For two happy days in the sun and shade and one night under the stars they lived the life of Riley. The weather was perfect. Heading the menu was brook trout, just out of the stream, fried a delicious golden brown over a camp fire, and garnished with fresh watercress and fried potatoes. These viands were topped off by generous cuts of Mamie's apple pie and washed down with steaming hot coffee. Then men ate from tin plates and drank from tin cups. Even Cleopatra, loosely tethered, took things easy. Resting in the shade, the old mare nibbled green grass and choice shrubbery to her heart's content. All in all, it was an ideal picnic.

Late Friday afternoon, when the sun had eased its intensity and the shadows were lengthening toward the east, the comrades packed their simple equipment and the remainder of their large catch of fish into the red-wheeled buggy, hitched up the mare, and leisurely started back to Clayton.

It was June, the countryside was lush and the day was cloudless. Cleopatra kicked up dust from the dry road and swished off flies with her tail. Somewhere, beyond the green skyline, a train whistled. It came like the voice of an old friend.

Jim, smoking reflectively, removed the pipe from his mouth and said: "Nothing can beat the sound of a train whistle."

"Nothing," Ben agreed. "I wouldn't want to live in a world without railroads."

"Me neither."

Again there was silence, silence and deep content, punctuated by the measured hoofbeats of Cleopatra on the brown road. The reins drooped as Jim fell into a reverie. Ben, too, was lost in thought.

AT LENGTH, from force of habit more than guidance, the mare turned into the Moran driveway on East Street. As the engineer climbed out of his buggy, Mamie came down the back stairs from the kitchen to greet him.

"Hello, Jim, did you catch any fish?"

"Did I catch any fish? You should see." He proudly opened the basket and displayed its finny contents. "Trout," he announced. "Ben and I didn't do so bad. We ate a lot of 'em, too."

Mamie smiled at her husband. She looked so pretty in a flowered maternity apron that Jim hugged her shoulders over the fish basket.

"You should get married, Ben," he advised with a wink. "Nothing like settling down with the right girl."

"Good idea," the boomer answered casually, "but I guess I'll wait till I'm an engineer on some road before I start looking around for a wife."

"You won't be waiting long," said Mamie. "A phone call came while you two were away. Somebody named Clyde in the roundhouse. He was trying to get in touch with you. Said you're up for promotion. It seems that a class of fifty firemen will take the exam, and you're number twenty-nine on the list. Congratulations, Mr. Bradford!"

"Me—up for promotion? Say that again?"

She repeated the news.

"Oh, boy!" the fireman yelled, dancing a jig. "That's wonderful! Promotion at last!"

"After you pass the exam," said Mamie.

This proviso made the one-time boomer chuckle with amusement.

Jim shook his hand warmly. "You'll pass easy, Ben. You'll make a great runner."

"It's what I've always wanted."

"Wait a minute, though," Jim blurted out. "Didn't you say you were quitting the C&W?"

"Me?" retorted Ben. "Me quitting? You must be crazy! I never said a word about it."

The engineer grinned happily. "This

calls for a drink. Mamie, you get that elderberry wine while I put Cleopatra in her stable."

TWO weeks later Willie was born. Jim Moran celebrated by lining up his friends at the Mansion House bar. The "stovepipe committee" looked over the foam in their glasses and opined that a future engineer had arrived. Understanding Jim as they did, they felt sure of it. The baby had railroading in his blood and naturally would follow his father's footsteps when the time came.

Old heads on the Chicago Division remembered when Jim himself had been a boy, back in the late eighties. They remembered Jim and his pal, Elmer Banks, as gangling, barefooted, country bumpkins in cut-down clothes spending much of their time around the Chicago & Western depot at Clayton watching the trains. In that dreamy era Clayton had been a rural county seat with unpaved streets overarched by trees. Like other prairie towns, this one had been far removed from civilization as the big cities knew it. Most of Clayton's young fellows in those days had had a hankering to become railroad men and see the outside world. Among them had been Jim Moran and Elmer Banks. Well, Jim was now a runner on the C&W, while Elmer was a freight conductor.

It was very plain that day to Elmer and his other friends in the Mansion House that Jim's ambition centered on the occupant of the new cradle at his home on East Street—a cradle which his wife Mamie was probably rocking at that very moment. The engineer was in a mellow mood. He visualized his son, years later, climbing into the cab to fire for him. He'd teach the lad little tricks of the game, short cuts that would help him to prepare for what the father firmly believed was to be his destiny.

And so when the gang at the bar predicted for Willie Moran a future at the throttle of a limited, Jim joyously drank to that toast. He gloried in the assurance that no son of his would have to endure the hardships and dangers that old-timers had faced. No, sir, Willie would never have to spend as long as fifty or sixty hours in the cab at a stretch, as he himself had done. There would soon be a law against it.

As a matter of fact, the Hours of Service Act was passed by Congress two years later and signed by the President, "Teddy" Roosevelt. Even before it went into effect, copies of the sixteen-hour measure—"hog law," the boys called it—were posted in yard offices and crew rooms. Now that this and the Safety Appliance Act had been put on the books guaranteeing physical protection for the men, the Brotherhoods turned their attention to wage problems, and the dual basis of pay was adopted. Road crews were compensated in hour or miles, whichever was more.

At the same time, however, railroad managements, on the plea of efficiency, laid increasing emphasis on the use of big engines to cut down operating expenses and boost the dividends of stockholders. With the C&W this move took shape in an order for Consolidation type freight power. Fifty tons heavier than the road's ten-wheelers, the new locomotives had 63-inch drivers, a boiler pressure of 190 pounds to the square inch, huge cylinders and high tractive effort, so they could "pull anything."

Late in July, 1908, these giants of the rail made their appearance and were numbered in a new 2400 class. The 2405, coupled to a long heavy-tonnage drag, was sent on a test run from Chicago to Clayton. The division's master mechanic and traveling engineer rode the cab that trip, while a trainmaster went along in the caboose. But the trial was not a success. Four drawbars were yanked out. Despite this delay, the train managed to crawl into Clayton before expiration of the sixteen-hour limit.

A report on the test was filed away in the company's secret archives, and no official word was given out as to whether or not three-thousand-ton drags were practical. Additional machines of the 2400 class continued to arrive from the builders

and were put to work hauling forty-car trains. These were not the kind of trains to which Jim Moran had been accustomed. It seemed that each year the cars were growing in length and capacity; and when steel began to be used instead of wood in fabricating them, the cars themselves weighed more. There was no doubt about it, the engines were pulling heavier loads.

SHORTLY before Thanksgiving Day of 1910 Jim was the successful bidder on trains 28 and 29. Men older in seniority had passed them up, but to Jim they represented his first regular passenger run, a big moment in his life. As soon as he learned the news he hurried home to share it with Mamie and their two-year-old son.

"From now on," he exulted, "I won't have to worry about the callboy ringing our bell at any hour of day or night. With a train of my own—"

"Two of them," smiled his wife.

"That's right, two different trains. I work every other day—make a round trip to Chicago and then lay off a day. That gives me plenty of evenings at home."

It turned out well. Pulling Number 28, the Chicago accommodation, Jim left Clayton at seven p.m. eastbound and made every stop enroute to the Windy City, which he reached at midnight. He then had time to run his engine to the house and eat a meal before registering for Twenty-nine. The westbound departed at 2:30 a.m. It consisted of three baggage cars loaded with newspapers and express, two Railway Post Office cars, and a coach for the crew and the few passengers who had missed *The Owl.* Besides station stops, Jim slowed down at several cross-roads and hamlets to make deliveries. It was 8:40 a.m. when he pulled into town at the end of his run.

In 1911 the track pans on the Chicago & Western were finished and cut in for service. During the months that immediately preceded this step engines coming out of the shops had their tenders equipped with scoops. Now, instead of making water stops, losing time at plugs to replenish their supply, the crew would lower their scoops and pick up the water while traveling at about thirty miles an hour. Stationary signals some distance from the pans told the men when to lower and raise the scoops.

Several weeks elapsed before crews got used to the new contraption. Upon approaching the track pans, the engineers would bellow orders to their firemen to get busy. One of the firemen's duties was to work the scoop, the earliest of which were operated by ropes. Sometimes a runner would order the lowering before the engine was over the pan, or a fireman in his anxiety to get water would pull down the rope too soon, in both of which cases the scoop was violently knocked off.

Thus, with one improvement after another, the months and years marched by in even succession. Seven years had passed since the celebration at the Mansion House bar, and Jim Moran was now pulling the *Starlight Limited.* On cold winter evenings the engineer joined his little family group around the ornate parlor stove. While Mamie busied herself at sewing or knitting and Willie reluctantly did his homework for school, Jim smoked a briar pipe and read the town newspaper or his monthly copy of the *Locomotive Engineers Journal,*

"THAT'S BEN BRADFORD pulling Seventeen," said Jim, flipping the reins. "Mr. Bradford's a fast runner. He'll get her into River Rapids ahead of the card"

glancing up at intervals for a remark to his wife and son.

Willie was a handsome lad, tall and blue-eyed like his sire. Jim wondered when the boy would start to show a real interest in railroading. Although Willie was fond of travel, especially by rail on his father's passes, he displayed no curiosity at all as to what made the wheels go around; and not even prompting could evoke the type of juvenile questions that Jim wanted to answer. The engineer discussed the situation with Elmer Banks.

"He just ain't mechanically inclined," said Elmer, shaking his head. "Maybe he'll go into train service or telegraphy."

Jim refused to admit either possibility. "Willie's gonna be an engineer. Give him time. After all, he's only seven years old."

"Why don't you buy him a toy train," the conductor said brightly, "one that'll run on its own power?"

"That's a swell idea!"

So the two conspirators picked out a train with an alcohol-burning engine and a couple dozen feet of track, including curves, switches, a crossover, a rural station and other accessories. He called this train the *Starlight Limited.*

Christmas Eve of 1912 brought a sudden drop in temperature. The weather man predicted a blizzard before morning. Jim was off that night. While his wife was trimming a fir tree with candy, strings of popcorn, glittering balls, cornucopias, paper-tinseled angels and a star of Bethlehem, Jim laid out the miniature railroad around it with prefessional skill and set the self-propelling train on the rails. A yellow and red sled which Mamie had purchased for the youngster was placed discreetly in a corner behind the tree, almost hidden from sight.

Next morning Jim managed to wake up before his son. He tiptoed down to the parlor and built a fire in the stove. Then he turned his attention to the tiny locomotive, filling her alcohol cup, putting water in her boiler and getting up steam. After that he called, "Wil-lie!" and chuckled softly to himself as he waited. But the smile faded into surprise and chagrin. The lad came dashing downstairs, fully dressed, and cried:

"It's snowing, Papa!"

He spied the new sled, straightway picked it up, reached for his fur cap and overcoat, and dashed outside, giving scant consideration to the beautiful *Starlight Limited* that puffed her way along the rails under the Christmas tree.

ONE DAY early in January, 1913, when Mamie was away on a visit to her mother, Jim hitched up his mare to the family sleigh and took his son for a drive. The air was crisp and clear; snow crunched as they sped along. Passing through Depot Square, the engineer noticed that Number 17 was leaving town but that Willie was far from showing the same interest in trains that he himself had evinced as a boy. Jim waved at the figure framed in the cab window. A gauntleted hand was raised to acknowledge the greeting.

"That's Ben Bradford pulling Seventeen," he said, flipping the reins. "Mr. Bradford's a fast runner. He'll get her into River Rapids ahead of the card."

Face buried in his upturned overcoat collar, Willie exclaimed: "Gosh, Papa, that sled Mom gave me is a whiz! Bill Hankins is gonna paint my name on it."

"That's fine," Jim answered sharply. "Did you hear what I said about Ben Bradford?"

The face in the coat collar looked up. "Sure, I did, Papa. He's a friend of yours. Gee whillikens, that sled sure is a racer!"

"When I was a young fellow I was crazy over engineers. Knew the names of a lot of them. Some I knew personally. Elmer and I thought it was great fun to be able to talk to them."

"Why?"

"Because—well, because we felt there was nothing quite like them. Every boy in town wanted to be an engineer."

"Oh," the lad murmured.

Jim studied him closely, but saw no clue on the finely chiseled features to indicate what Willie was thinking; and he did not press the issue at that time.

"Giddap," was all he said.

But when they were out in the country and the horse was picking up her heels and laying them down in lively fashion, and finely powdered snow was blown back into their faces, an engine whistling for a grade crossing gave Jim an excuse to bring up the subject again.

"You don't watch the trains very much, do you son? You never listen for the whistles, do you?"

The little fur cap inside the coat collar shook a negative reply.

"Didn't that whistle we just heard sound mighty good?" Jim persisted.

Again the answer was wordless but unmistakable. Smothering his disappointment, the engineer drove back home in silence.

Late that afternoon the mercury dropped ten degrees and snow set in again. At night a strong wind howled around Jim's train, beating white flakes against his cab windows, as the Chicago-bound train fought her way to the big city. Jim was glad to pull into the old glass-covered trainshed and hurry over to his favorite restaurant for a hot meal.

Afterward, while arc lamps at the terminal were spluttering and swaying on their long cables, he gave his engine, an Atlantic type numbered 2088, her final inspection and oiling. His cab window closed, he was waiting for the signal to test his air when a voice called up to him from the station platform. Pushing back his window, the runner gazed down to find Elmer Banks, in his great coat, standing below him.

"Oh, so I'm going to have you, eh?" Elmer grinned, blowing white breath against his fingers.

"I thought I recognized you." Jim returned in good humor. "You followed me on freight, and now you're on my tail over here on the *Starlight Limited*. Guess I'll never be able to shake you."

While the boyhood friend was jotting down his name and engine number in the trainbook, Jim's memory drifted back to the day when Elmer had made his first trip as freight conductor, climbing into the cab to announce proudly that he was to be the skipper and that at last their youthful ambitions had been realized.

Elmer snapped shut the book, fumbled around for the pocket of his great coat and thrust it inside. Then he asked:

"How do I look in the gold braid?"

"The way you're bundled up, I can't tell," Jim replied, closing the window and climbing down to the platform. Extending his hand, he added: "Congratulations, pal, even though I don't know what you look like."

Elmer wriggled and squirmed, and a moment later had the overcoat off. With the coat on his arm, he inquired:

"Well, what d'ya say now?"

Jim went through the motions of a critical appraisal. He had to admit to himself that the blue swallow-tailed coat, with gold braid, was well fitting and made Elmer an attractive figure; but he did not express that opinion aloud. Instead, he chuckled:

"Pretty good for a hand-me-down. How much did it cost you?"

"Hand-me-down?" blazed the newly promoted passenger conductor. "Why, you dumb galoot," he spluttered, "I had this swanky outfit tailor-made for me especially!"

"Whoa!" Jim laughed, slapping his pal on the back. "Okay, you look like a million dollars."

"That's better," Elmer nodded. "Damn it, after all these years I still don't know when you're kidding and when you're serious."

The engineer placed a hand over an ear. "Yes, and after all these years you still come ahead and forget to tell me what kind of train I'm pulling."

Elmer flushed. "Yeah, I know. I guess you've got your limit. Eight cars—"

"Seven is our normal consist on the *Starlight,*" Jim interrupted. "What's the other car?"

"An extra Frisco sleeper. Overflow off the *Rocky Mountain.*"

"A helluva night to slip me another car! We'll be heading right smack into a

blizzard, and even the regular consist would be too much. Doesn't the weather mean anything to them? You'd think the night chief dispatcher would have brains enough to cut down on the trains!"

"Well, pal, see what you can do," Elmer flung over his shoulder as he strode away.

JIM CLIMBED into the cab and at that instant the communicating whistle peeped a signal for him to release the airbrakes. After swinging the brake handle around to let off the brakes, he leaned back in his seat and leisurely filled his pipe. The fireman, Archie Smith, tossed coal onto the fire, slammed shut the firebox door, crossed over to the right side of the cab and asked:

"Say, Moran, how much steam do you think I oughta send back to 'em?"

Jim considered the situation. "Well, we've got eight wagons and it's a bad night. Better give 'em the limit."

"I've got thirty now."

The runner shook his head. "We're standing still in a terminal away from the wind. When we get going out in open country and the gale hits 'em, it's gonna be damned cold. I don't want to freeze up this train."

Archie strode to the gangway, glanced back alongside the train, and then returned.

"Looks like a tight steam-line," he reported. "I don't see any leaks. We can't let 'em have all the steam. We gotta save some to run the engine."

Jim smiled. "Tell you what,—when we start you give them another ten pounds and see how it goes. If they need more, the skipper can blow for steam."

Watch in hand, Jim waited. A few seconds before two o'clock he pushed back his window and leaned over the arm-rest, his gaze fixed on Elmer standing at the steps of the smoker. The car inspector had okayed the train. Jim was waiting for the signal to leave town. The last baggage truck pulled away from the baggage car, the platform was deserted. Elmer bawled:

"All abo-o-o-ard!"

The grilled iron gate shut. The conductor turned toward the cab and signaled a highball.

Jim reached for the throttle, while Archie pulled on the bell rope. The glass-domed trainshed resounded with thunder as the Atlantic's exhaust began to blast and the *Starlight Limited* slowly moved out into the yards. There the northwest wind struck the express in its full force. Steam and smoke belching out of the stack was driven down, back along the boiler, into Jim's face.

Whirling flakes of snow created a heavy fog bank which impaired visibility. Jim sat at his half-opened window, his head and shoulders far out over the arm-rest. The sharp stinging gale cut like a knife at his exposed face. He crouched forward, hand on the throttle, alert against any danger that might be lurking beyond the reach of his keen blue eyes.

Peering into the gloom, he picked out the signals set for him and mentally calculated his route across the maze of track. A semaphore blinked. The throbbing, pounding engine lurched as she took the switch. Another blob of light, another crossover! Lumps of loose coal rolled down onto the steel apron.

To shield his face, Jim pulled up the right side of his jumper until it almost met the peak of his cap. When Archie opened the firedoor, a wave of heat warmed the half of Jim that was in the cab. If only he could turn from the window a moment and bask in the bright shaft of heat! But just ahead lay a signal tower.

The engineer felt his way. With vision obscured by snow, he realized the semaphore bridge would loom suddenly out of the night. He was running on caution signals and had to be prepared to stop at each signal should the indication be against him. Experienced in passenger service, trained to the rigid requirements, he was aware that only dire emergency would excuse his making a sudden stop.

SQUINTING into the wind and snow, he glimpsed the signal. The engine again lurched in taking the crossover, then

steadied herself and boomed ahead. The last signal tower in the Chicago yards. Ahead stretched the main line. With a sigh of relief Jim pulled his head back into the cab and notched the throttle to get a roll on the heavy, dragging train.

Archie banged shut the firebox door and scowled: "Feels like we're pulling the station."

"We're sailing smack against the wind," Jim declared. "She'll pull easier once we get her warmed up."

"I'd better give them that ten pounds now, eh?"

Jim leaned over the deck and glanced at the steam gage. The needle pointed to a full head. A plume of white, feathery steam from the half-lifted safety valve trailed over the roof and into the cab. He said:

"You can stand it. She's ready to pop."

The fireman climbed up and turned the valve on the "nigger head." He moved it slowly, carefully as a miser doling out pennies. He watched the gage which indicated the pressure of live steam being sent back to cars in the train to heat them. The instant his pressure registered a gain of ten points he set the valve. Tonight he was not only firing a locomotive but also supplying heat to a train. Both required live steam, direct from the boiler.

From past experience Jim knew what to expect. But even if he had to be an hour late into Clayton he decided the passengers must be kept warm. He got a swing on the train and then adjusted the reverse lever. He aimed to save the fireman as much as possible by running the engine from the throttle rather than the Johnson bar. He'd give her steam but feed it to the cylinders through narrowed ports.

Booming through Chicago at a few minutes after two in the morning, Jim looked from his cab at the cold, windswept, deserted streets. The only moving objects he could see were a sweeper valiantly struggling to clear the trolley tracks and wagons carrying the United States mail between post offices. On went the *Starlight Limited* through the white-mantled suburbs and then West Canton and the prairies. Wind moaned and whistled as they passed the sparsely settled towns.

Archie pushed open his window, glanced back along the train, and drew his head into the cab. Flicking snow off his neck and cap, he said:

"That snow's as fine as sand. And she's piling up like hell, too."

"I'm glad we're headed for home," Jim responded grimly.

"I'll be gladder when we get there."

The train pulled into Star Lake, their first regular scheduled stop. The wheels had barely ceased turning when Conductor Banks came ahead. Wrapped in his heavy coat, head inclined against the wind, he called up to Jim:

"What's the matter with the steam?"

"Why, nothing that I know of," the engineer shouted back.

"The cars are cold and the passengers are complaining."

Jim cast a searching glance to the left. "Archie, how much steam are you sending back?"

"Still forty," came the answer.

"Fireboy says you're getting forty pounds," the engineer offered. "If you want still more we'll give it to you."

The skipper glared at Archie. "You're not fooling with that steam, are you?"

"What the hell do you mean?" Archie retorted. "I set that valve when we left Chi and I ain't touched it since."

"Maybe there's a leak," said Jim.

"No, you can see for yourself," replied Elmer. "Better send some more steam."

The engineer turned halfway around. "Archie, give him ten more."

Muttering to himself, the fireman climbed up and grudgingly twirled the heat valve.

ELMER strode toward the smoker, swinging a highball with his lantern as he walked. Jim whistled off and notched back the throttle. The 2088 moved a few yards, and stopped. Jim had the slack bunched. Now he stood up, pulled back the reverse lever and sent the engine against the train. Again the slack bunched.

Putting the reverse lever into forward motion, he eased on the throttle with one hand while he worked the sander with the other. Once more the engine surged ahead. The high driving wheels lost their grip on the icy rails and began to slip. Exhaust roared, shooting live coals into the sky, and drivers whirled. Vexed, Jim hastily shut off steam.

Four times the runner pushed the 2088 against his train to bunch the slack before he met success. At length as he pulled away from the little frame station at Star Lake in a swirl of snow he dug out his watch and shook his head. Nine minutes lost!

Archie tossed some coal on the fire, slammed the firedoor and edged over to the engineer's side.

"I thought we'd never get started," he said glumly. "Too much train, too little engine, if you ask me. And then the brains squawking for more steam. Say, he doesn't have to make it."

"Banks knows that. But he's got a job to do and he can't let the passengers ride in refrigerator cars."

"I ain't no magician, either. I'm giving him what I've got."

Jim filled his pipe. "You're giving him only fifty pounds. If you had to, you could give him the limit—"

This remark annoyed the fireman. "Give him all I got, eh? And us stand still? And what about the steam hoses, Moran? Why, it'd blow 'em to hell!"

"Look, lad," Jim explained patiently, "I didn't tell you to let him have that much pressure. I only said you could if you had to. Understand? I've known the hoses to stand for as much as a hundred pounds without bursting. So you see you're still far from the limit."

Expertly Jim wheeled the train on and on, despite the storm, which appeared to gain in intensity. Whistling through Somerville, he reached for his watch and learned that he was barely making his scheduled running time. Between Somerville and Raven the communicating whistle in the cab peeped six times, a signal to increase the steam pressure. Archie stuck his shovel in the coal pile and turned to Jim.

"What the hell does he want now?"

"He's blowing for more steam," said the engineer.

Pushing open his window, Jim looked back along the train. But he could not see beyond the smoking-car. Suction caused by the speed had created a cloud of smoke. The fireman made the same inspection, with no better results.

"Give them another ten pounds," Jim advised. "When we stop at Desmond we'll look the train over. There must be a leak somewhere."

Again Archie climbed up and turned the valve, grumbling to himself. Sixty pounds of live steam was now being used to heat the cars. As Jim whistled for Raven, Archie was working harder than usual. The fireman hooked the fire, then began to toss coal into the hungry firebox a shovelful at a time. Jim watched him reach for the chain, open the firedoor and, with the other hand, manipulate the loaded scoop to position near his feet where he could grab it and deftly spread fuel into the roaring white-hot maw. Aware that firemen resorted to such methods only when steam was low, the engineer leaned over to look at the gage. This glance confirmed his suspicion.

The fireman stuck his shovel into the coal pile and stepped over to the right side of the cab.

"She's got away from me," he panted. "I'm doing my best, Moran, but the damn needle won't walk around. We'll have to stop and blow her hot, or else shut off the steam-line. I'm telling you because I don't want to sneak behind your back and do it."

Jim pondered a second.

"No, don't fool with the heat. The weather must be 'way below zero. We'd freeze the train. I'll slow down, take it easy into Desmond."

Jim made his decision. He pushed in the throttle to roll along at twenty miles an hour. He realized that he would lose time, drop precious minutes he could not recover. But the reduced speed would use

less steam and enable them to get into Desmond without having to stop and "blow her hot."

LATE an additional eleven minutes, Jim Moran pulled into Desmond and swung down from the cab. Conductor Banks immediately came ahead to learn not only why there was so little heat but also why the *Starlight Limited* had lost so much time.

"We're twenty minutes off the card," he growled. "What excuse am I going to give?"

Calm and sure of himself, Jim smiled inwardly. In a flash of recollection he saw his friend stamping nervously like Elmer had done that day, long ago, when he backed his local freight into a factory gate on the mill siding at Birdtown, derailing his engine and blocking the main stem.

"With this weather it won't be hard to find something to put down for a delay."

"But we've got a passenger train, and everything has to be on the line." Elmer spoke impatiently. "Besides, a hundred people are hollering for heat. If some of them write it up, there'll be hell to pay."

A violent gust of wind howled down the station platform. Elmer's lantern was almost extinguished and Jim's torch flickered.

"We've had low steam from Raven over," the engineer stated. "I had to take it easy or stop and blow her up."

"Oh, so that's why we're not getting steam in the cars?"

Jim shook his head. "We've been giving you plenty of steam. There's a bad connection—"

"There isn't a blow anywhere on the train," Elmer countered. "The smoker is warm and then the heat ends. The flagman says no steam is coming out the rear end. Says you're not giving pressure enough to send it all the way back—"

"I've got sixty pounds on right now," the fireman cut in.

"Yes, and I'll prove it to you," Jim added. "I know more about passenger work than you do. Come on; we'll trace that steam."

Elmer hesitated. "What will you do?"

"I'm gonna inspect this rattler."

"You mean you'll lay here and lose more time?" There was panic in Elmer's tone. "The dispatcher will be wild—"

Jim faced his friend angrily. "Yes; and what's more, I'm not leaving here until this steam question is settled."

Reluctantly Elmer followed Jim toward the rear end. The flagman was standing a short distance from the last car.

"We've got the steam all right," the flagman greeted his conductor. "You oughta seen the water come out. Reckon that gang on the head end had the steam shut off."

Jim strode up to him. "What the hell are you talking about? If you knew your business you'd have tipped Banks off to the trouble."

Elmer turned to the engineer. "Why, what's wrong, Jim?"

"Pal, this side of railroading is a lot different from freight. Any old-timer would look the train over before blaming the man up ahead. While an engineer works with his fireman, he wouldn't conserve steam at the expense of freezing a train. If one or two rear cars froze up we'd lose an hour thawing them out. Let me wise you up on a few angles. Next time you have a passenger train and no steam is coming out the rear, first look for a turned valve between the cars or whatever spot you think the steam ends. When you have steam blowing out the rear end, the trainline is all cut in."

"Yeah, you fellows shoot back the steam just before you make a station stop," the flagman snarled.

Jim paused to think up an appropriate reply but decided it was useless. Besides, half of what the flagman had said was true. Some firemen low on steam did play with the heat valve. He spoke to Elmer again.

"Now then, the next step is to look for a blow. There's a loose hose connection in this train, but we can't see the blow because we're stopped and the slack is in. But soon as we start we'll stretch them out

"THE DISPATCHER wants to know what in hell's all the delay?"

and make the loose connection. All right! I'll pull ahead slowly. You stand and watch them go by."

"You won't leave me, will you?"

Jim laughed. "Hell, no! I'll be looking for a signal from you."

ENGINEER and conductor hastened ahead. While Elmer pulled up the collar of his coat and took a position beside the baggage car, Jim climbed into the cab and told Archie what he intended to do.

"I hope you shove the proof down their throats," the fireman growled. "After the way I worked, to have them say I wasn't sending back any steam!"

The runner had to take slack three times before he managed to get the train moving slowly ahead. Hand on the throttle, he looked back, his eyes on Elmer's lantern. The *Starlight* had traveled half a car-length when Jim saw a cloud of steam blowing out from between the smoker and first coach. The skipper swung him to a stop.

Bolting down from his cab, Jim hurried to the spot and found the baggagemaster already in between the cars. Elmer acknowledged it was a bad leak.

After the hoses had been recoupled, Jim suggested that his friend remain at the spot and make sure everything was okay before they left town. At that moment the telegrapher approached them, saying:

"The dispatcher wants to know what

in hell's all the delay? He asks if anything is wrong, and what happened between here and Star Lake."

"A hose parted," Elmer replied. "We'll give him the delays when we get to Clayton."

"Getting right out of town?"

"We'll know in a minute."

Jim strode to his Atlantic-type engine. He looked at his watch. Thirty-eight minutes off the card! Once more he was compelled to take slack several times. Moving slowly ahead, he caught Elmer's highball. Instantly he whistled off. As he roared out of town he consulted his watch again. Forty-two minutes late!

The safety pop on the 2088 lifted. A white geyser of the precious but now excess steam shot skyward. Archie inquired:

"Guess I can let them have sixty, eh?"

"Set it at sixty," came the answer. 'Mercury's below zero and they'll need heat. Now it won't be blowing away on you."

Jim realized what a tough assignment his fireman had in supplying the train with heat at the same time he was maintaining boiler pressure, in the face of a blizzard. He knew, too, that the lateness of the *Starlight Express* was no fault of Archie's. And as much as Jim desired to adhere to schedule, he would not "rap" the 2088.

Between Desmond and the town of Valley View, his next stop, he dropped another six minutes. The operator, overcoated and mufflered, appeared under his cab window, yelling to be heard above the gale:

"Hey, Moran! Dispatcher wantsta know why ya lost another six minutes."

Jim retorted: "He does, does he? Well, you tell him that I said, 'Too much train and too little engine'."

The op ruminated an instant. Then: "Say, that's pretty good! D'ya think he'll get it?"

"Sure, he will—after a while. And tell him I said to stick his bald head out the window and take a peek at the night."

Conductor Banks twirled a highball; and Jim, having taken extra slack, notched back the throttle with determination. He was aware that Valley View, on the ascending grade westbound, was one of the division's toughest spots for starting a train, especially a heavy one like the *Stairlight Limited* and especially in stormy weather, but he clenched his jaw and set to work.

That night Jim had to take slack seven times. On the last try he had taken so much that he had moved the train. He banged ahead, holding his breath, hoping he would not break a knuckle or pull a lung. He had been rough and he knew it. At one time he was almost resigned to admitting defeat and wiring for a pusher.

Archie had opened the firebox door to save his fire from going up the stack. Now that the high drivers were no longer slipping and concern for his fire was tempered, he sidled up alongside Jim and said:

"I figured we were there for the night. I thought you'd never get her moving. 'Too much train and too little engine' is the answer all right. If you ask me, I'd say these old girls have had their day."

"The 2088 is a good engine," Jim defended, "one of the best this road has ever had."

WHEELING the limited through the wild night, Jim reflected on his wisecrack in reply to the dispatcher's query. Suddenly it dawned on him that this answer was not facetious but represented a sober fact that had lain in the back of his head a long time. Like the small brass-trimmed eight-wheeler of his youth, the Atlantic type had come at last to the end of its usefulness. The difficulties met tonight were largely the result of drawing upon the Atlantic's reserve of power, which he had once thought was almost limitless, and finding that power inadequate to cope with the demands placed on it.

Arriving at Clayton sixty-eight minutes late, Jim saw two Atlantics waiting on the westbound engine spur. Car inspectors uncoupled him from the *Starlight Limited*. Scooting for the house, the engineer called to Archie Smith and pointed at the locomotives coupled together on the spur.

"See that?" he chuckled. "We didn't do so bad with one engine. The storm hasn't let up, so the dispatcher is doubleheading the *Starlight* out here."

Archie was grave. "They'll be hell for the delay. What can we tell 'em?"

"The truth," Jim responded. "We did our best, and have nothing to be ashamed of."

Evidently the dispatcher made an official answer of 'too much train, too little engine', because the next day Jim Moran was summoned to the roundhouse office.

The Master Mechanic, Mr. Radner, demanded to know what he had meant by the cryptic message. Jim said it was self-explanatory.

"Do you mean to insinuate that Atlantics can't handle the trains?" the Master Mechanic ranted.

"Not when you overload them. You're having them pull trains they were never designed to handle. When these engines were first placed in service the C&W had wooden passenger cars; now we have steel. They're still good machines, but it's the old story—too much trains!"

"Oh, is that so?" said the M.M. with a sneer. "Well, we'll see about that. Maybe the power is all right. Maybe you fellows are at fault. I guess we'll have the Traveling Engineer and the Road Foreman ride the cabs and find out what's going on. Nine trains were late on this division last night, fourteen on the night of the storm."

Jim picked up his hat. "Listen, Mr. Radner, I have a hot dinner waiting for me, and aim to get home. Send out the Traveling Grunt, the Road Foreman, whoever you want. I'm tired answering foolish questions. You know damned well what's wrong."

Mr. Radner made good on his threat. All the rest of that winter the Traveling Engineer, the Road Foreman of Engines and other Motive Power department men rode the cabs. But trains continued to run late. Even the *Continental,* crack train of the C&W, fell off the card; during February it was never on the advertised. Finally the Motive Power department ended its investigation by admitting that in most cases the engineers had not been at fault but, on the contrary, had performed admirably. In March a letter to that effect from General Manager Cato was posted on the bulletin board.

The end of the 2000 class Atlantics was not far off. The men understood Mr. Cato's letter. It was tantamount to an open acknowledgement that the engines were outmoded. How would the company solve this problem? Engineers knew but said nothing. They suspected that blueprints of new power were already being drawn at the Baldwin Locomotive Works in Philadelphia.

THE ATLANTIC TYPE had a short but glorious part in locomotive history. Most of the roads had used them for fast passenger service and found them ideal in hauling light-tonnage trains. But by that time—March 1913—nearly every important road except the Chicago & Western had changed over to the Pacific type as the standard for high-speed heavy trains. Some motive-power genius had been inspired with the idea of lengthening the Atlantic type's boiler, adding a large firebox and another pair of driving wheels, and thereby creating the Pacific.

Late in September the men on the C&W caught their first glimpse of the new 3000 class Pacifics and were awed by their size, their eighty-inch drivers and their 205 pounds of boiler pressure. Now for the first time the Traveling Engineer or a Traveling Fireman accompanied each engine and instructed the crew how to handle them. Jim Moran was amused to think that someone was necessary to instruct him in running.

Word was circulated that the new Pacifics would be used only on the road's fastest trains. Some men recalled that the same thing had been said when the Atlantics were first put in service. Old-time runners looked at the huge locomotives and shook their heads. Those behemoths would never stay on the tracks, being too high and too big. Firemen scrutinized the large fireboxes, mentally calculated how

much more coal they would have to shovel, and started bidding on runs to which Atlantics were assigned.

By November the first batch of Pacifics had been broken in, were pulling the more important trains, and had begun to supplant Atlantics on the others. Engineers grudgingly admitted that the 3000 class handled the heavy Pullman flyers with ease, practically ran away with them.

The real test came in the winter of 1913-'14. Schedules were maintained except on a few occasions when sub-zero weather and blizzards caused some delay because of hotboxes and bursted steam hoses. But once they left a station, the Pacifics wheeled the trains and often made up time. An engineer seldom had to take slack more than twice, even at a Valley View.

MEANWHILE, Willie Moran's interest in transportation had again shifted to the sled his mother gave him for Christmas the year before. With the first snowfall of the season, he was challenging all the small boys in the neighborhood to race him down Hill Street, the steepest incline in Clayton. Bill Hankins had painted his name on her, giving the engineer's son an even more personal enthusiasm for the red and yellow speedster.

Willie's miniature train, the *Starlight Limited,* with her tiny alcohol-burning engine, had been all right enough to fool around with during the summer and fall, on rainy days when there was nothing else to do. But the sled, as graceful as she was sturdy, nestled closer to his heart than the train had ever been. Jim knew this and said nothing.

One night in the Chicago depot of the C&W, while passengers were pouring through the train gates to board the real *Starlight Limited* and Jim was on the ground making his final round with a long-necked oiler, while his big Pacific throbbed and panted.

The stationmaster, came rushing over with a telegram. Jim pulled the dripping spout away from the guide and swung around expectantly.

"Message for you, Jim," said the stationmaster. "Just off the wire. From your home."

The engineer read the telegram twice, very slowly, and after a long pause he thrust it into one of his pockets. His face paled, his mouth tightened into a straight line. At that instant the glass-roofed trainshed rang with cries of "All abo-o-ard!"

"What d'ya say, Moran?" the fireman yelled down from the gangway. "Time to leave. The brains is swinging his arm off tossing us highballs."

Jim turned to the stationmaster. "You know what the message is?"

The stationmaster nodded. "Yes, Jim, and I'm sorry."

The engineer ponderously climbed the cab steps.

Whatever Jim's thoughts were that night in the cab, he kept them to himself. The fireman exchanged block signal indications with him, and those were almost the only words spoken by the engine crew on that run. At long last they left Desmond behind, with Clayton the next stop, with Jim continuing to push the *Starlight Limited* across the dark prairie at high speed. As they roared through Round Robbin without slowing down, Archie Smith called across the cab:

"Hey, Moran, you're ten minutes ahead of the card!"

The runner inclined his head slightly, to acknowledge that he had heard.

Archie was mildly annoyed. "By golly, you're like a clam tonight. Okay, I can be a man of few words, too."

When the train pulled into the Clayton depot the engineer found his friend Elmer Banks waiting with a sleigh, Jim's own sleigh, and his mare was neighing impatiently. Elmer greeted him from the station platform.

"Jim, let the fireboy run the engine to the house. You'd better come right along."

Reaching into his seatbox, Jim scooped up his coat and untouched dinner pail. As he stepped toward the gangway he said:

"Take her to the house, Archie."

The fireman bolted to his side. "Moran, what's wrong?"

"Something has happened to my son," Jim flung over his shoulder.

The fireman tried to say something, but the car inspectors hollering for the locomotive to be taken away drowned his voice. An instant later Jim followed Elmer into the sleigh.

For several blocks the two comrades rode in silence. Jim dreaded to ask the question uppermost in his mind. He fingered the telegram in the pocket of the overalls jumper he was still wearing. As the sleigh turned into East Street the engineer saw his house ablaze with light. His mind traveled back to the night of Willie's birth. The place had been ablaze with light then too. He'd had oil lamps in 1905; now there were gas jets. Funny, remembering the different kinds of light. Sure, he recalled the night. . . .

The doctor met him at the door and put an arm around the engineer's sagging shoulders.

"Willie died ten minutes ago," he said in his best professional tone. "You'd better go in to Mamie. She's taking it hard."

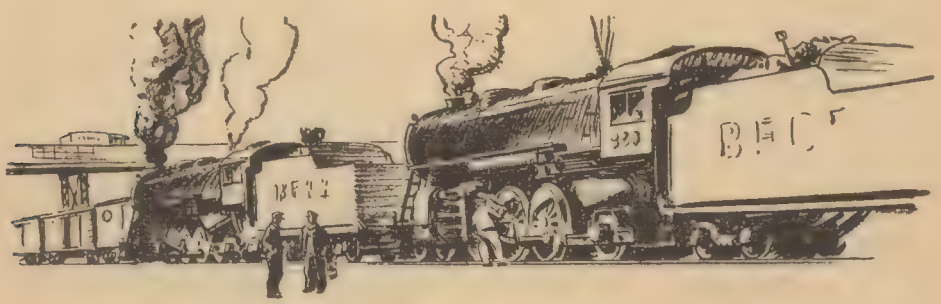
The father was stunned but forced himself to speak. "How—how did it happen, doctor?"

"He was out coasting, Jim, racing down Hill Street ahead of the other children—and he ran into a motor truck!"

Jim fought for self-control, thinking of the sled that Willie had loved more than the little train, *Starlight Limited.* Well remembered words stabbed his tortured brain: *Gosh, Papa, that sled Mom gave me is a whiz! Bill Hankins is gonna paint my name on it. . . .*

For a moment the engineer's great frame shook, his eyes grew misty. Then he resolutely squared his shoulders and went into the house to comfort his wife.

A locomotive whistle pierced the cold night air, trembled a brief moment, and died away on the prairie.



Old-Timer Limited

THE urge still comes in the early spring,
When the freight-train whistles wail;
It is then that clicking car wheels sing
To all me back to the rail.

As I watch the manifest roar by,
I think of my run again,
And the long up-grade and the open sky,
And the flags of the section men.

I feel the lure of the shining steel,
Where the pistons drive us on;
I see the tonnage rock and reel,
Hear the words of a boomer's song.

I hear the call of a red-hot main,
Where the highballs fall and rise;
I hear the wind and the sleet and the rain,
And the sound of the boomer's cries.

I catch a whiff of a hotbox blaze.
And the tang of a stockyard pen;
And I see the lights of a "garden" maze
As we pull in on Number Ten.

Yes, boys, in the spring when the oil runs free,
And the flanger's task is through,
My thoughts will ride with rails to the sea,
With the rest of my old-time crew.

—*Earle Franklin Baker*

ALONG THE IRON PIKE

by JOE EASLEY

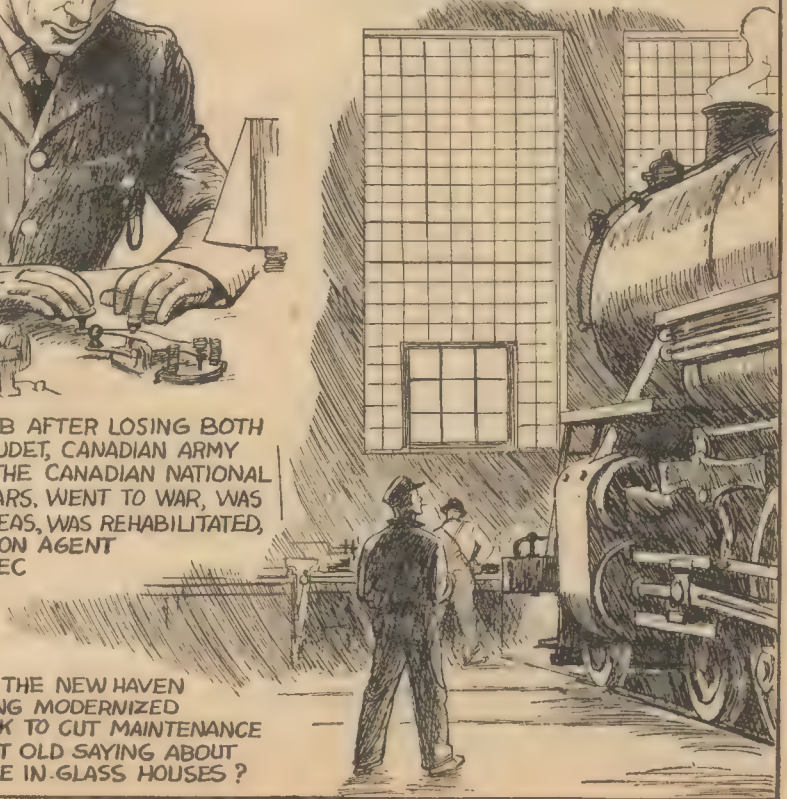
LIFE BEGINS IN LOWER 12. CAROLYN SUE WAS BORN IN A PULLMAN BERTH ON THE **SAN FRANCISCO CHALLENGER** ENROUTE TO CHICAGO MARCH 27TH. THE YOUNG MOTHER (SHE'S ONLY 18) IS THE WIFE OF EDWARD ANDREWS, NAVAL COXSWAIN OF NAPA, CALIF.

STEAM ENGINES OF THIS TYPE HAULED OPEN CARS ON THE WEST JERSEY & SEASHORE RAILROAD BETWEEN ATLANTIC CITY AND SOMERS POINT, N.J., A TWELVE MILE RUN, ABOUT FIFTY YEARS AGO, BUT ONLY IN SUMMERTIME

SHORT COAL TENDER WITH STEPS UP THE SIDE IS USED ON FINISHING TRACK IN B&O ROUNDHOUSE AT DU BOIS, PA., FOR FIRING MALLETS THAT ARE TOO LONG FOR A REGULAR-SIZED TENDER TO BE COUPLED ON INSIDE THE BUILDING

THREE TRACK-LEVELS AT DEADWOOD, S.D., 1902: (TOP) HOMESTAKE GOLD MINING CO. RAILROAD, (MIDDLE) C&NW, (BOTTOM) BURLINGTON. A MAN FELL FROM A TRAIN AT THE TOP LEVEL ONTO A NORTH WESTERN COAL TENDER 41 YEARS AGO BUT WAS UNHURT
(From R.W. Madison, 2413 Bristol St., Omaha, Neb.)

BACK ON THE JOB AFTER LOSING BOTH HANDS. RAOUL AUDET, CANADIAN ARMY MAJOR, SERVED THE CANADIAN NATIONAL RAILWAYS 20 YEARS. WENT TO WAR, WAS WOUNDED OVERSEAS, WAS REHABILITATED, AN IS NOW STATION AGENT AT LEVIS, QUEBEC

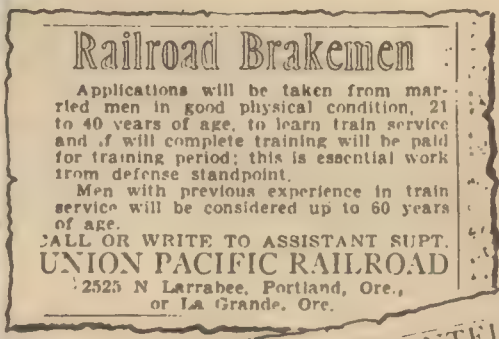


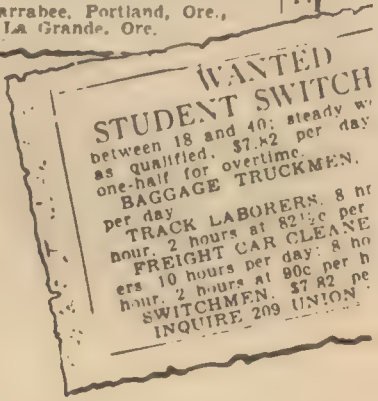
ROUNDHOUSES ON THE NEW HAVEN SYSTEM ARE BEING MODERNIZED WITH GLASS BRICK TO CUT MAINTENANCE COST. WHAT'S THAT OLD SAYING ABOUT ENGINES WHO LIVE IN GLASS HOUSES?

Seniority Begins at Forty

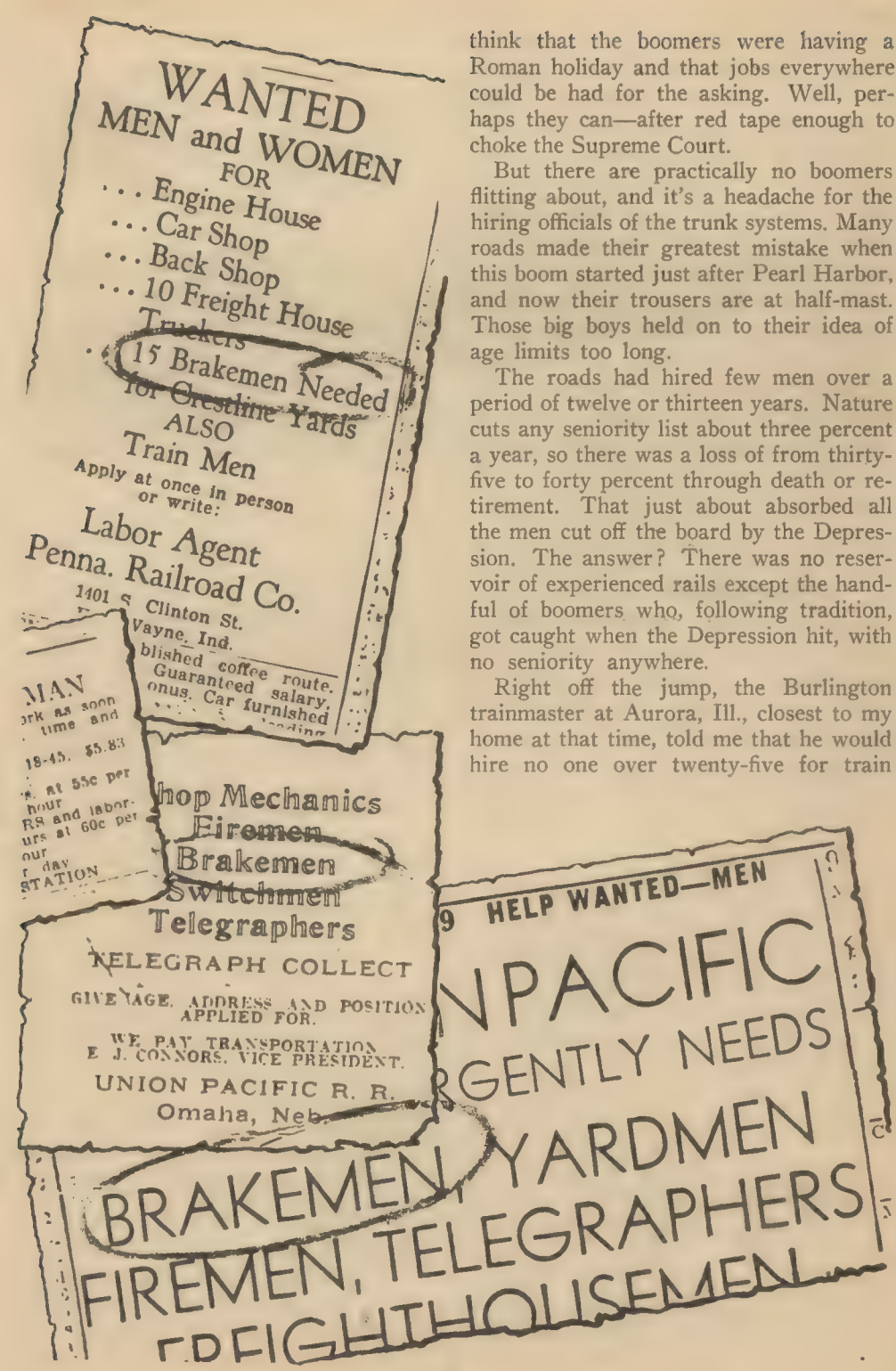
By CLIFFORD FUNKHOUSER

Conductor, M-K-T Lines


Railroad Brakemen
Applications will be taken from married men in good physical condition, 21 to 40 years of age, to learn train service and if will complete training will be paid for training period; this is essential work from defense standpoint.
Men with previous experience in train service will be considered up to 60 years of age.
CALL OR WRITE TO ASSISTANT SUPT.
UNION PACIFIC RAILROAD
2525 N Larrabee, Portland, Ore.,
or La Grande, Ore.



WORLD WAR I was boomers' heaven—almost the Big Rock Candy Mountain Line itself. There was a job almost every place you applied, and no trouble about getting it. Service letters ceased to be a requisite—a man could move as often and as far as he liked without restrictions. Pick up a newspaper today and you'd think that car hand's heaven was here all over again. You'd



think that the boomers were having a Roman holiday and that jobs everywhere could be had for the asking. Well, perhaps they can—after red tape enough to choke the Supreme Court.

But there are practically no boomers flitting about, and it's a headache for the hiring officials of the trunk systems. Many roads made their greatest mistake when this boom started just after Pearl Harbor, and now their trousers are at half-mast. Those big boys held on to their idea of age limits too long.

The roads had hired few men over a period of twelve or thirteen years. Nature cuts any seniority list about three percent a year, so there was a loss of from thirty-five to forty percent through death or retirement. That just about absorbed all the men cut off the board by the Depression. The answer? There was no reservoir of experienced rails except the handful of boomers who, following tradition, got caught when the Depression hit, with no seniority anywhere.

Right off the jump, the Burlington trainmaster at Aurora, Ill., closest to my home at that time, told me that he would hire no one over twenty-five for train

Photo by Thomas Gallardo, Rio Laja, Guanajuato, Mexico

WE DON'T KNOW WHY, but this photo shows big cans of milk carried on the running board of Cordoba & Huatusco No. 2, a Mogul with drivers inside of frame and 140 pounds boiler pressure. The train is getting under way after a station stop at Chocaman, Vera Cruz, Mexico

service. It was the same story with the Santa Fe, Pennsy, Union Pacific, Espee, and so forth. One or two companies in the Chicago district would take on switchmen up to forty; and though some specified thirty-five, the prevailing age limit was twenty-five.

Managements of smaller roads, foreseeing an acute shortage of experienced manpower, threw open their arms to the old floaters, especially the time-tested conductors and enginemen. Age within reason made no difference. If a man could see lightning, and hear thunder, the physical examiners said he was in the pink.

Obviously, the little pikes got the cream of the old crop, taking probably five hundred experienced men from circulation, while the trunk lines temporized over raising the age limit above its previous top, usually thirty-five. The stalling and high-hat notions went on into 1942.

Naturally, the old railfaring men "at liberty" saw an opportunity to dig in, entrench themselves, acquire seniority, and work after the war. We boomers know that this was our last chance to get set for the future, and we're clinging like leeches. Instead of worrying about where to land when the board is cut in a few weeks, like we did in the bygone era, we're now figuring on "whiskers." The boomer of yesterday is the home guard of today.

Most early birds hired out on seniority lists which had not taken on a man in ten or fifteen years. I myself hit a list to which only one conductor had been added in seventeen years! There had been few over ten promotions on that road in as many years. From the day I started until the time I was put on the extra board, twelve conductors retired voluntarily or died and two were discharged. Thus in about ninety days I reached a seniority status equal to about twenty years of service. At least, that's how I dope it out.

WHEN I signed up eighteen months ago, there were 140 names between me and the youngest promoted brakeman. I followed this shack as a conductor, but trailed him these 140 places as a brakeman. Most of these men were students and by no means ready for promotion, even if they'd been called up that day and had been offered the job. Since then, practically all have evaporated. Now there are only twelve brakemen between us, and nearly 150 younger than I.

If business falls to no lower level than it did in 1932, when it was off by a good half, I can probably hold a job braking. It had been so long since the roads hired men until this boom hit, that more than half the conductors in these United States had one foot in the grave and the other on a banana peeling. And after the war, if skippers continue to disappear in the next three or four years as they have in the last eighteen months, I can expect to be on the conductor's extra board about half the time.

Some thirty men on the seniority list ahead of me are now at, over, or within a year or two of pension age. If they don't accept the rocking-chair voluntarily, it won't make much difference—nature will take care of them in a few years.

THE AUTHOR

Apparently I am nearly as well fixed as if I had hired out in the early twenties. I have hopes of running a train after the war, unless I have a lot of bad luck and draw a six month's vacation twice a year without pay. All I have to do is keep things about halfway right and my nose dry and I won't be canned. Actually, I'm not worried; in the eighteen months I've been here I haven't had even a letter of criticism.

However, this is no criterion of the railroad business, and I knock wood each day. I'm not boasting how smart I am, or what fine things I've done to get in on the ground floor. It just serves to show how the experienced old-timer dug in and is staying put. It explains, too, why the hiring officials of the snooty roads are not seeing, the familiar faces at Needles, Winslow, Laramie, Little Rock, Winnipeg, and other centers where the happy-go-lucky, festive boomer used to eliminate all the personnel problems for the trainmasters and yardmasters denned up there. The old-timers just aren't moving about.

It's mighty lonesome in the caboose nowadays with no boomers riding. Twenty years ago I felt neglected if at least one member of the Order of Railway Conductors and two or three stingers (brakemen) didn't make my crummy for a trip. Now, in more than a solid year of running trains, not one worthy brother has asked me for a ride. There's nothing back there with me but some student who more than likely can't keep awake. I suspect that if the Super caught me with an experienced car hand in the hack tonight, he would hire the fellow pronto and kiss me for dragging him in.

The tables have been turned, though, and the big roads are advertising for experienced car hands. But we old boomers have long memories. They didn't want us when we offered our services; so, to hell with 'em—let them get along with greenhorns and like it. We remember, too, that the roads which were so high-handed with us when the boom first broke are the ones which used to be tough to work for. We're sticking to what we call "white men's jobs," or with the roads that were square shooters years ago and haven't changed.

Some systems are actually paying wages to youngsters while they "learn" the business in four or five trips. Then the boys are thrown loose on us poor old-timers. Less than a week ago I nearly ate a student alive for dozing in the cupola and not watching the train and order boards. "Damn such incompetent good-for-nothings!" and so on. While I was cussing him out, another broken-down boomer grinned at me and asked:

"Say, Funk, remember when the Santa Fe canned *you* for sleeping on duty?

I shut up. The Santa Fe did fire me on January 20th, 1917. A trainmaster had caught me napping in the observation car and put the skids under me then and there. Unreasonable about it, too. How the devil did they expect a man who liked to dance until three in the morning to stay

awake? I was given ninety days to learn my lesson and straighten myself out. After that, before snoozing, I made sure there were no trainmasters about.

IMAGINE me, of all persons, worrying like an old fuss-budget about getting my train over the road safely. Maybe us guys just can't realize that booming and youth go hand in hand and that a new nest of railfarers is being hatched. Come to think of it, almost all the home guards I knew as a kid were reformed boomers. I suppose it's the same thing with us today.

Time was, if an ORC as much as spoke a cross word to me, more than likely I'd throw away my lantern and let him figure how to get out of the dilemma I had created. I was hard-boiled then. Jobs were too easy to get to be bothered about tying up one for several hours or so. Yes, sir, and most of us couldn't switch a giraffe out of a bunch of goats. But we told them off and pulled the pin. We were young, and real car hands, too. Efficiency was our motto. If we tied up one job we didn't bother to clean up the mess; we moved, generally by request, to gum up another chore.

The other night I drew an "old head" of ninety days from student trips. At this point, where the story takes place, there is a double crossover. Our student was trying to set out seven cars alone, eighty cars to the rear end, and it took a little time for help to get over. He forgot about the first crossover, which was kept lined from main stem to passing track, but lined up the other crossover and signaled the hogger back. Instead of heading his seven cars right, he ran them through a switch between the engine and the train. It was just as well, if he had to pull a boner, that he split the switch, because he had forgotten to line up the derails the other way and would have upset several cars.

There we were, anyway, right in the face of a passenger train. We couldn't take the engine back to the train and pull ahead through the torn-up switch, and it was raining. Patiently I paddled through the tempest nearly a mile to a section toolhouse. There I got tools and disconnected the bridle rod of the switch, so we could pry it over and spike it, lined up for the main stem. I mashed a finger and otherwise felt unhappy. We did get in the clear, though, barely in time to avoid sticking the passenger train.

After recalling this experience, my mind naturally wanders back to November, 1915, when I was a confident young squirt with a few months' braking behind me. The scene was Sheffield, Missouri, where the Santa Fe meets the Frisco. I decided to speed things up and set out six or seven cars without help. Two puzzle switches controlled the crossover. We had a hold of four cars. I signaled the hogger ahead over the puzzle farthest away at which a switch tender was stationed. While he bent the iron, I threw the puzzle nearest to me. I did it wrong. Both the setout and the engine bit the dust.

Our train was back on the single track, on the other side of Big Blue Junction, a mile or so away, and right ahead of Number 15, the hotshot mail of those days! The works were tied up very nicely. Number 15 had to back up to Rock Creek Junction and detour into Kansas City or the Missouri Pacific. My conductor, Mr. McNeese, was inconsolable. I couldn't think of a thing to please him right then, nor frame up any extenuating circumstances to placate Mr. Allison, our hair-trigger Super. Nothing would do but for me to sign for thirty brownies. Well, after the way he'd talked to me, what were a few demerits? In bygone days I would have quit the job in a huff and told the brass collars where to go.

No, sir, the old boomer trail ain't what she used to be. We boomers didn't worry then. But we do now. Looks like some of our chickens have come home to roost. I, for one, have given up booming, and hope to grow "whiskers" like any other home guard. With age limits what they are now, seniority begins at forty.

BACK IN THE DAYS: Honeymooners . . . *Harry C. Temple*

OPERATING CYLINDER for power reverse gear is placed below main air reservoir on this Central Verment Texas type

ASK ANY GROUP of veteran enginemen about locomotives and equipment of the past, and chances are there isn't one man in ten who won't have some word of praise for one or another of the appliances that decorated the engine thirty or more years ago. Stephenson valve gear, crosshead-driven pumps of the days before injectors, simple air compressors with perforated strainers—any of these recall the days when it really took "brains" to get over the road.

But there's one contrivance that roadmen and yardmen alike will agree about—not its merits, but the lack of them—and that instrument of the devil was the Johnson bar. The origin of that name has never been satisfactorily settled, but Johnson, whoever he was, is better off in oblivion, for no railroader who was ever called upon to take the right-hand side when that device was standard is likely to join in singing his praises.

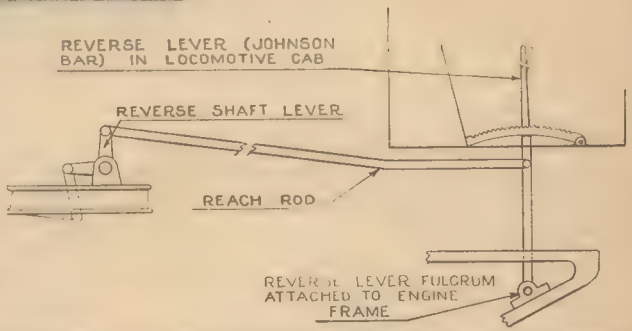
The manually-operated reverse lever was basic equipment on locomotives from the earliest productions to very recent years. Essentially it was designed as a means for changing the direction of the engine's travel, the position of the handle indicating to the novice forward or reverse speed. But experienced enginemen know its other uses. To them, the Johnson bar was a means for "hooking 'er up," or more technically, shortening the valve

Light of the Lantern

Hooking Her Up

MODERN power reverse gear, air-operated and developed into an easily maintained mechanism, has changed the job of regulating valve cut-off. Hooking up the engine is no longer the dangerous, back-breaking task it was in the days of the Johnson bar

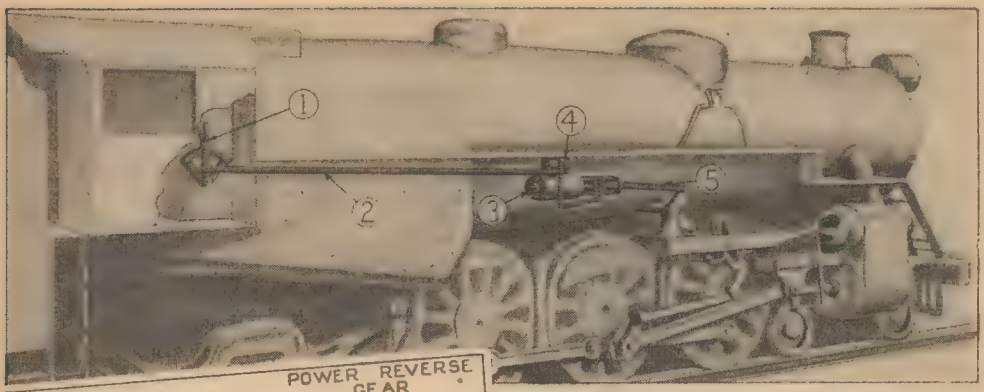
Photo from Railroad Photographic Club, 47 Royal Street, Allston, Mass.

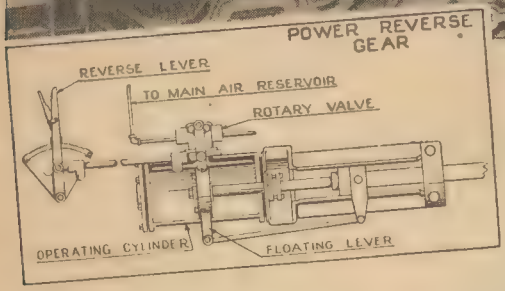

REVERSE LEVER (JOHNSON BAR) IN LOCOMOTIVE CAB
REVERSE SHAFT LEVER
REACH ROD
REVERSE LEVER FULCRUM ATTACHED TO ENGINE FRAME

travel as the speed of the locomotive increased. This action cuts off the supply of live steam to the cylinders, sending it in early in the stroke, and thereby saving coal and water as well as wear and tear on the reciprocating parts.

When the reverse lever is down among the oil-cans, or in the corner, as oldtimers say, the valves are travelling their maximum. The ports in the valve chamber remain open, supplying steam for as much as eighty-five percent of the stroke. An engine with a stroke of thirty-two inches is then taking steam for a distance of twenty-seven. This means plenty of steam and water for each revolution since in such a period, an engine takes steam four times.

When the engine is working to capacity, starting trains or going over heavy grades, maximum value travel is necessary but as the speed increases the cut-off must be shortened. To do this, the lever is drawn back toward the center of the quadrant; the steam flow can be reduced, en-





NUMBERS indicate parts of power reverse mechanism: 1) lever and quadrant, 2) reach rod, 3) operating cylinder, 4) rotary valve, 5) auxiliary reach rod to reverse shaft arm or bell crank

tering the chamber for not more than twenty-five percent of the stroke. At this cut-off the steam is admitted for a piston travel of only eight or nine inches, a condition making for economy of operation since there is less work for the boiler—and the fireman.

But handling the reverse lever while there is much steam in the cylinders is dangerous business. With the Stevenson motion it meant not only shifting the valves in the chest but lifting the links, hangers, and part of the eccentric blades. Of course, the counterbalance spring helped to make this action easier, but a good strong-arm technique was required. If the valves happened to be of the slide type, the friction caused by tons of pressure on the unbalanced portion of the valve added to the effort.

Once an engine was under way after a stop, and running speed was reached, the Johnson bar would be adjusted for the amount of steam desired in the cylinders, and the worst would be over—until an emergency stop called for hauling back the lever and reversing the engine as an aid to braking. But switching service was another story. In moving strings of cars, coupling up trains, moving backward and forward through the maze of yard tracks, the lever had to be thrown from one position to another a countless number of times during an eight- or ten-hour shift. When an engine was right out of the shop, all the lost motion in links and bearings is taken up, and as a result the lever handled with difficulty; sometimes two men together could barely shove it over.

WHEN the piston valve, with its nearly perfect balance came into use, enginemen felt their troubles were over. Along with this valve came the Baker and Walschaert gear. In reversing, or hooking her up, it was no longer necessary to lift the entire link, for in the Walschaert motion only the block shifts in the link and in the Baker arrangement only the yoke moves back and forth. For a time it appeared as if the manual labor of reversing was over but accidents continued and the hand lever was still a hazard that needed careful watching.

There were numerous reasons for continued difficulty with the reverse lever. One was that if the valves got dry they stuck and so pressure was needed to move them. Or valve rings occasionally broke, and wedged themselves in the ports. As trains grew heavier and faster and piston valves larger in diameter, motive power men realized that a better type of reverse

gear was needed. The Johnson bar was obsolete equipment for modern power.

Shortly before the turn of the century, motive power men of several roads devised a means of reversing by power. Steam was later tried with cylinders and motors, but compressed air, already available, seemed to be the obvious agent for actuating the reversing mechanism. Experiments finally produced practical, air-operated equipment. Today ICC regulations require that locomotives be equipped with power reverse application.

There are various types of gears on the market today and most of them use air for power. They are safe and efficient and require little energy. The Franklin's precision gear is operated by means of a screw which permits extremely fine adjustments. Other types are lever-operated, including the Langelier mechanism used on Boston & Maine heavy freight engines. This is an air motor with gearing to accomplish the proper motion.

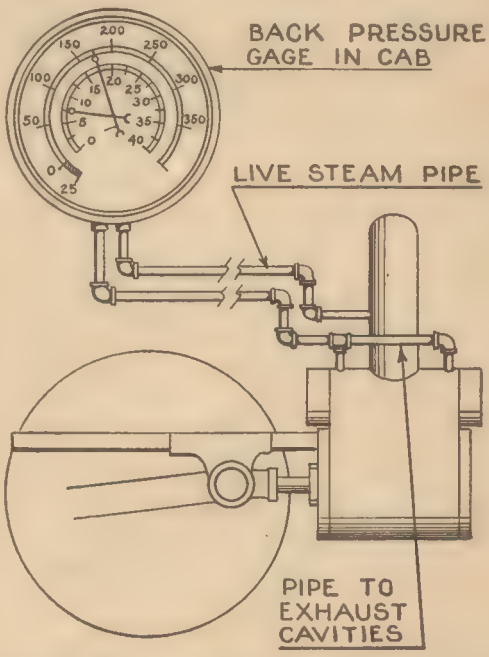
In the most generally used mechanism, a small-sized cylinder is applied to the boiler or frame, and attached to the front cylinder-head is a set of guides and a cross head not unlike a small steam engine. At the top is a rotary valve controlled by the reverse lever connected to the crosshead. Ports lead from the valve to the front and rear of the cylinder.

The air cylinder is not large, sufficient power being obtained with a diameter of ten inches, and a length of twenty-two inches. In the cylinder is the piston connected to the crosshead by a rod. Some of the latest types of gears have eliminated the guides and crosshead by employing a stuffing box which is exceptionally heavy having a well-lubricated surface in which moves a large hollow piston rod.

In the cab the small reverse lever is set on a quadrant which is attached to a bracket on the boiler. This is connected to a reach rod which runs to the center of the floating lever of the gear. The design is such that a movement of the reverse lever will rotate the operating valve controlling ports through which air flows.

It is easy enough to see how the reverse lever and the crosshead stay in proper relationship to each other. When the reverse is moved forward, the reach rod pushes against the floating lever and for the moment the crosshead remains stationary. The upper end of the floating lever moves, revolving the rotary valve and allowing air to flow through ports to the rear side of the piston while at the same time air exhausts slowly from the front. The flow of air from both ends of the cylinder will continue as long as the reverse is unlatched and the movement is forward. When the lever is dropped into a notch of the quadrant, the floating lever has a fulcrum at the reach rod connection. The moving crosshead then causes the rotary to turn in the opposite direction until the air at the rear is stopped and that at the back of the piston is trapped. At the same time it opens the port at the front and allows air to flow there, causing an equalization of pressures. The piston then remains locked.

If the reverse lever is drawn to the back position in the quadrant, air is admitted



BACK PRESSURE GAGE is connected with the steam pipe leading to the cylinder, and with exhaust cavities

by the valve to the front of the piston and exhausted from the rear. The piston is then forced back to a point where it stops at the desired cut-off by dropping the latch and causing the pressures to equalize.

There is one drawback to the mechanism. Sometimes the gear will creep, that is, change the cut-off while the engine is working steam, but the roundhouse gang knows just what to do at this report: cylinder- or piston-rod packing is leaking and needs either adjustment or replacing.

THE EXACT position at which the reverse should be placed when the engine is on a grade, level track, or drifting has been the subject of dispute among motive power men. Some officials approve of the shortest cut-off possible when the engine is running at high speeds, while others insist that it should never be less than twenty-five per cent, with an easing off of the throttle to care for the speed. This question has led to the development of numerous devices such as the Valve Pilot, cut-off control gage, and the back pressure gage.

The valve pilot is a delicate mechanism which records on a gage for the engineer, and also on a tape for the superintendent, the locomotive speed and cut-off. Since every inch on the tape records two miles run, a master rule used when tape is removed determines the exact speed travelled and the position of the lever over every inch of track. In train control territory where a signal is set at caution and rules demand a reduction in speed, this mechanism also shows what actually happens on the engine as the signal is passed.

But probably one of the simplest devices for the reverse lever adjustment is the back pressure gage. This aids the engineer in adjusting the correct position of the reverse, by measuring the back pressure.

As everyone knows, when an engine is taking steam on one side of the piston it is exhausting steam on the other. This exhaust steam goes up the stack where it does the job of creating draft. If a locomotive could be made perfect, this exhaust should be condensed and a partial vacuum formed, which would aid in the movement of the piston instead of retarding it. But the next best thing is to lower the back pressure as much as possible, for the difference of the two pressures in the cylinder may be considered as the mean effective pressure: the higher the m.e.p. the more powerful the engine.

Experience has helped to show that a certain back pressure is ideal for efficiency and also proper draft; it may vary on different roads but is generally from ten to twelve pounds. With a gage to show this pressure, the engineer can adjust the reverse lever as necessary.

The gage has two connections. One leads from the pipe tapped into the steam pipe to the cylinder, and the other from the four pipes tapped into the exhaust cavities at the valve chamber. The large needle registers the cylinder pressure and the smaller the back pressure. The larger one also registers vacuum when drifting, which is undesirable for it creates a drag on the piston and to alter it, the throttle valve should be cracked slightly or the drifting valve opened if used.

Experienced enginemen appreciate this type of gage. When the engine is at rest both needles are at zero and as the throttle is opened, the large hand goes up to a few pounds below boiler pressure while the small hand slowly climbs as the pressure is built up. The throttle is kept wide to maintain as high a cylinder pressure as possible and the reverse is hooked back, to keep the back pressure below the maximum limit of around twelve pounds.

In case of emergency it is usual practice to have a steam connection to the gear. If the main reservoir pipe should break or the pump fail and all air be lost, steam can be turned into the reverse cylinders and the engine brought to a stop by placing the lever in the opposite direction of travel and giving the throttle a little steam.

There was a day when hooking up the engine, reversing direction of travel, or making an emergency stop meant danger and risk for enginemen, but with the Johnson bar on the scrap pile, these operations are made safely and economically.

How Well Do You Know the Book?

PETER JOSSERAND, Western Pacific dispatcher (right) who has written many items for this department, sends in another train order problem for readers who want to test their knowledge of the rulebook. Mr. Josserand's answer appears on page 68.

ON THE LINE extending from A to Z, everything was in a mess from end to end. A cloudburst resulted in a washout, which tied up the route for twenty-four hours, with traffic accumulating at both A and Z. Then somebody fumbled by releasing a flock of trains from each terminal before the line was actually open. This caused delays, which became so bad that most of the crews tied up on sixteen hours before they reached their destinations.

Conductor O'Brien and Engineer McIntosh, borrowed from the Western Division, were sent to C, an open train-order office, to get Extra 4144 West, which had been tied up there about four hours by the time they arrived.

"Here are the orders that the crew left," the young op greeted them, "and here's a check on regular trains. Dispatcher says that's all you need."

It was just 2:30 a.m., Sunday, when O'Brien and McIntosh started through their stacks of flimsies, to see that the sets were complete and that they understood the orders alike. When the engineer came to No. 58, he examined it closely for a moment, then tossed it aside.

"There's a dead one," he remarked.

Conductor O'Brien looked at the copy in his pile. It read:

ORDER NO. 58

Eng 2156 run extra leaving Z on Saturday May 15th as follows with right over all trains except first class

Leave Z seven one 701 a m
Y seven eight 708 a m
C twelve ten 1210 p m
B twelve twenty 1220 p m
*Arrive A twelve thirty 1230 p m**

*The stations between Y and C are omitted for brevity, because they have no bearing on the question.

"Whadaya mean, dead?" the conductor asked.

After a second reading of the order, McIntosh retorted, "Sure it's dead. See, he's due here at 12:10 p.m.—that's yesterday afternoon—and it's 2:36 a.m. now, so he's more than twelve hours late on his schedule."

"But the guy is an extra train—he hasn't got a schedule."

"That's a schedule order, isn't it?" McIntosh challenged, and the conductor agreed that it was.

"All right, then he's on a schedule," the engineer maintained, "and any train more'n twelve hours late loses both right and schedule, don't it?"

"Hold on a minute," O'Brien cautioned. "The rulebook says that regular trains more'n twelve hours behind either their schedule arriving or leaving time at any station lose both right and schedule, and can thereafter proceed only as authorized by train order."

McIntosh cut in, "Well, this guy is a regular train. What's irregular?"

"I can answer that one," the red-headed op interrupted. "A regular train is one authorized by timetable schedule."

"You keep out of this," the engineer warned. Turning to the conductor, he repeated his contention that order No. 58 referred to a regular train.

"Then what about the rule that says a train order, once in effect, continues so until fulfilled, superseded, or annulled?"

"A schedule," the young op put in, "is that part of a timetable which prescribes class, direction, number, and movement for a regular train. Extra 2156 is no regular train and he's not on a schedule."

RIGHT: military police in charge of Bren guns, carried on British trains and mounted at each stop in case of air attack

"I told you to stay out of this," McIntosh said sharply.

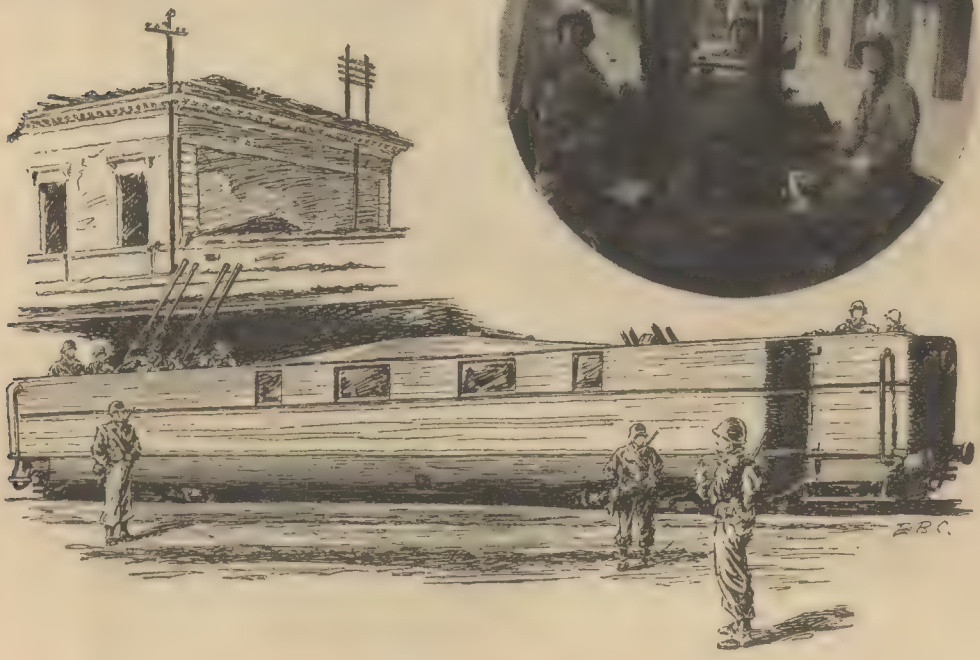
"The kid's right," O'Brien interrupted. "This train was not created by authority of the timetable; it was created as an extra by train order."

"Suppose he was," the engineer agreed. "But this order was issued yesterday. He's fourteen hours and thirty minutes late on it, here, right now. Whoever heard of a train being that late on anything? How long *do* you figure this order is good?"

What do you think? Is there a limit to the time Order No. 58 remains in effect, if not fulfilled?

HOSPITAL TRAIN, built from Italian and German cars, evacuates casualties from the Italian front to rear-area hospitals

BELOW: U. S. crew mans anti-aircraft guns on captured armored car, once private property of Mussolini



The Information Booth

EACH month the Lantern Department includes, in addition to a technical article on some ramification of railroading, answers to rail questions of general interest, submitted by our readers. We do not send replies by mail.

I

HOW MANY locomotives were placed in service by the Pennsylvania last year, and what proportion of these were Class J-1 units?

A total of 107 locomotives were put in operation by the Pennsy in 1943, of which 101 were new 2-10-4's of the J-1 Class. The company had an additional 43 of these engines on order at the end of the year.

The remaining six of the 1943 total were Mallets of the Norfolk & Western Class Y-3 type, purchased from that road and now used as freight haulers between Hagerstown, Md., terminus of the N&W's Shenandoah line, and the Enola yards, near Harrisburg, Pa.

Photo by Malcolm D. McCarter, Peru, Ind.

WABASH NO. 2918 on the lead track at the yards in Peru, Ind. This Class 0-1 engine is one of twenty-five 4-8-4s built by Baldwin for the Wabash in 1930-'31

2

WHAT railroad company operates the greatest total mileage of track in the United States?

According to Association of American Railroads figures, trackage of the Santa Fe system totals 13,512 miles; this amount includes all subsidiaries, but not sidings, yards, or parallel double-trackage. Second in size is the Southern Pacific, whose total is within a thousand miles of the AT&SF.

3

HOW ARE smoke and gas fumes ejected from the thirty-six miles of snowshed on the Southern Pacific's Sierra route?

Vents placed directly under the overhanging eaves of the snowsheds aid in the escape of fumes, and even in heavy snows, one side of the shed is at least partly open. Thirty-six represents the total mileage, which is broken into sections. In the summertime, sections of the sheds can be taken down, as an aid to ventilation as well as a precautionary measure in the event of fire.

4

LIST the specifications of the Union Pacific's 4-12-2 Overland type. Is this the most powerful non-articulated engine in service today?

Numbers	9000-9062; 9500-14; 9078-87
Cylinders	27x31 (1, inside) 27x32 (2, outside)
Pressure	220
Drivers	67
Weight on drivers	372,000
Engine weight, total	515,000
Tractive effort	96,650

Rating power on the basis of tractive effort, this Union Pacific engine is outranked only by the Bessemer & Lake Erie's Class H-1 Texas types. The largest of these 2-10-4's have 97,300 pounds' tractive effort, with an additional 13,100 assigned to the booster. The Chesapeake & Ohio 2-10-4's, Class T-1, specifications of which were followed by the new Pennsylvania J-1 group, have a tractive effort of 91,584 pounds, and their boosters add 15,000. UP's three-cylinder unit is not booster-equipped.

N. H. Amino, Halifax, N. S.

TALL-STACKED Pacific type, No. 2511, taking Dominion Atlantic passenger train out of Armdale for Kentville, N. S.

5

I HAVE an old employes timetable, dated 1859, of the Wabash Railroad, in which the three eastbound trains are numbered consecutively 1, 2, and 3, while these running eastward are 4, 5, and 6. When was the change made, regulating all east or northbound trains with even numbers, and south or westbound odd numbered?

When standard time was adopted by the railroads in this country, in 1883, it was further proposed that all lines simplify their operations by a uniform system of train numbering. This change, another step in the gradual standardization of operating practice, was begun that year.

Pvt. Norman Cooper, Fort Sumner, N.M.

SCRAMBLED *CRUSADER*. Above: Reading streamlined Pacific, assigned to No. 8 out of Pottsville, Pa. Below: Streamstyled 178 takes her place on No. 607

6

HOW MANY railroads are experimenting with radio communication?

To date, the Denver & Rio Grande Western, the Baltimore & Ohio, the Burlington System, and the Rock Island Lines have made public announcements of their various experiments with radio communication: between trains in motion and dispatchers, between trains, and between head-end and rear-end of each train, as well as in yard and switching service. Norfolk & Western, too, has applied phones to three Roanoke humping engines. Construction permits have been issued by the Federal Communications Commission to the B&O and the Burlington for experimental radio stations along their main lines. Among applications now pending, for authorization of similar experimental installations, are those of the Atlantic Coast Line, the Reading, the Rock Island, and the Santa Fe Lines.

7

MUST NON-AIR cars always be placed at the end of an air-equipped train, or is there some way to cut them into the consist?

On industrial roads, not public carriers, where "jacks" may still be used, it is often customary to have such cars fitted with an air line running underneath the body, with connections that can be attached to the hoses of standard cars; air may be carried continuously for the length of the train. This practice is also familiar abroad, where there is a larger amount of non-air equipment.

8

WHAT IS the average daily performance, in miles run, for passenger and freight locomotives?

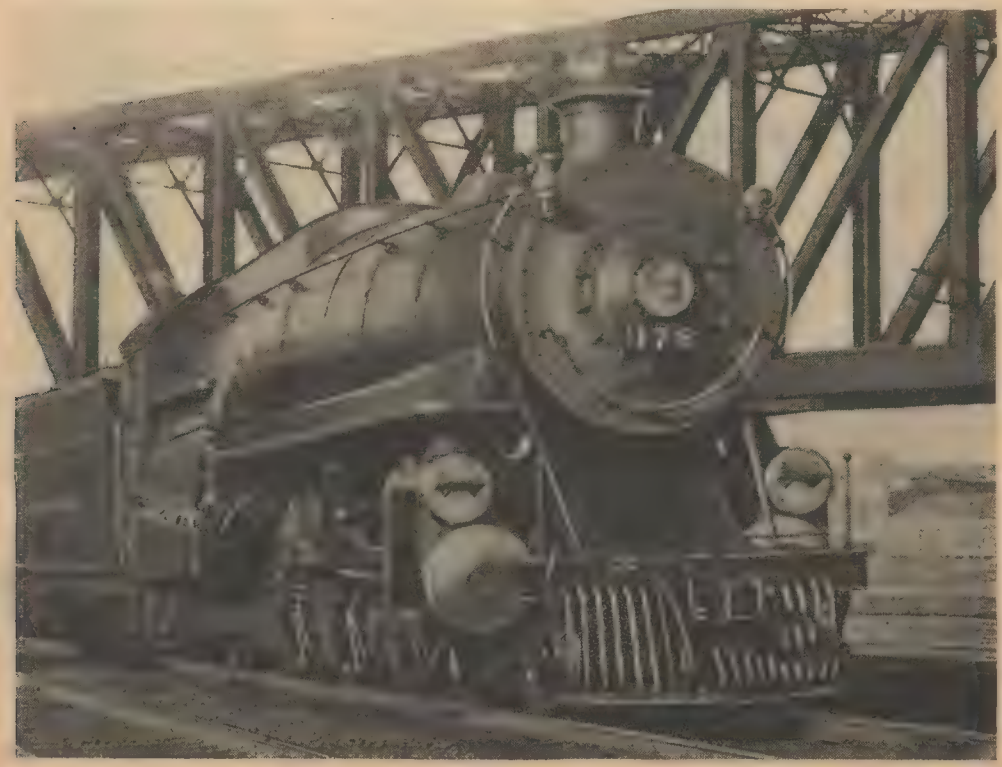
Reports based on 1943 performance indicate that active units in freight service averaged 125 miles per day, while passenger locomotives traveled an average of 230 miles. In comparison with previous years, these are record-breaking figures.

9

HOW MANY times have the railroads been featured on United States Government postage stamps?

Six different stamps, the first in 1869 and the most recent in May, 1944, have celebrated the railroads or railway postal service. In the year of the completion of the Union Pacific-Central Pacific line across the continent, the Post Office Department put out a blue, three-cent stamp picturing a balloon-stacked 4-4-0 type locomotive. On May 10th of this year, seventy-five years to the day after the driving of the golden spike at Promontory, Utah, a special three-cent commemorative stamp, bearing an artist's conception of this event, was put on sale.

Of the other stamps depicting railroad



scenes, one was an envelope stamp of 1876, with a pony express rider and a 4-4-0 diamond-stack, tender, and small passenger car imprinted in white on both green and red backgrounds. A special commemorative issue, a two-cent, red and black stamp showing a passenger train drawn by a 4-4-0, entitled "Fast Express," was first put on sale at the Pan American Exposition in Buffalo, N. Y., in 1901. The remaining two were U. S. Parcel Post stamps, issued in five-and three-cent denominations in 1912 and '13, the first titled "Mail Train" and the second "Railway Postal Clerk."

Extra 2156 Did Not Hold Schedule Order

HERE is Peter Josserand's solution to the train order problem printed on page 61.

Engineer McIntosh was wrong on all counts. Most of the confusion over Order No. 58 resulted from its being called a "schedule order" Its contents were immediately tangled with the rules as applied to timetable schedules.

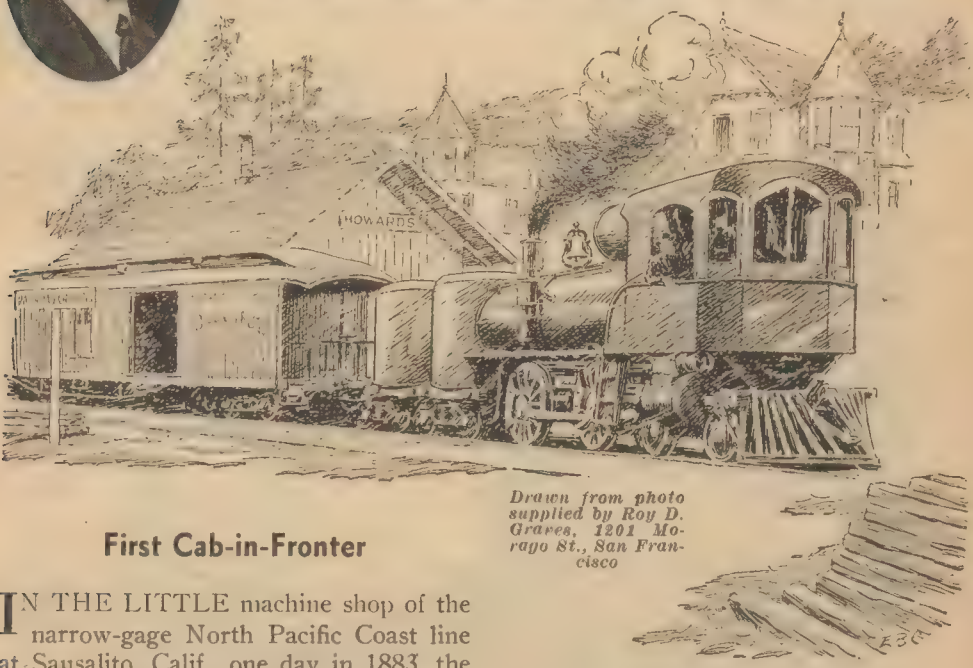
It is interesting to note that this form of order, usually found in the books as Form G, Example 3, is no longer sanctioned by the A.A.R., and has been omitted from the 1938 revision of the Standard Code, although still widely in use.

Any train order, once in effect, continues until fulfilled, superseded, or annulled. If none of these occurred, the order would, theoretically, continue in effect indefinitely; it is possible to run a train any number of days and hours late thereon. Nobody ever heard of such a thing being done simply because a dispatcher would annul the order and issue a new one later, rather than be obliged to peddle "run-late" orders to all trains to keep them moving against one which was indefinitely delayed.

Photo from Railroad Photographic Club, Allston, Mass.

CELEBRATING seventy-fifth anniversary of the Golden Spike ceremony is the new three-cent stamp (above) depicting train of the period. Union Pacific power has come far since then, as witness 4-8-4 No. 805 in action

TEN YEARS BEFORE the Southern Pacific's cab-ahead articulated engines made their first appearance on the Overland Route, the little, narrow-gage North Pacific Coast had a rebuilt 4-4-0 with cab in front designed by the road's master mechanic, William J. Thomas (left). A route through hilly, wooden terrain, crowded with curves and tunnels, could be safer and speedier if the engine crew had better visibility, Bill Thomas decided



Drawn from photo supplied by Roy D. Graves, 1201 Morago St., San Francisco

First Cab-in-Fronter

IN THE LITTLE machine shop of the narrow-gage North Pacific Coast line at Sausalito, Calif., one day in 1883, the young foreman answered the company's president briskly:

"No, sir, you can't grind those wheels—if you do, you'll cut through the chill and the wheels won't be worth anything. You'd better let me turn down the journals—they're extra large—and true the wheels that way."

Within four days the company's four new Pullmans, which had been delivered with the wheels bored half an inch off center, were ready for service, and the Sausalito shop foreman, whose name was William J. Thomas, got a new job, master mechanic of the NPC, at twenty-four.

For twenty-five years after taking over, Bill Thomas supervised NPC locomotives. Under his direction the first true cab-in-fronter was built at the Sausalito shops in 1901, ten years before the Southern Pacific's development of its articulated type.

Occasional rides on the pilot suggested to Bill the advantages of placing the engineer up front. With the help of master boilermaker James McAdams, and the frame, cylinders, wheels, etc., of an old Baldwin-built 4-4-0, Thomas built NPC No. 21. Using oil for fuel, the engine had a water-tube boiler, mounted on an incline so that the water would circulate, with 63 three-inch tubes running through a Morrison corrugated furnace placed inside of the boiler shell.

Using the small 13x18-inch cylinders and 47-inch drivers of the earlier NPC engine, the total weight of No. 21 was 48,000 pounds—not enough, her builders discovered, for the hilly terrain in which she was used required a greater adhesion. The first cab-in-fronter paved the way for modern units built for service on the routes through the Sierras, though it's a far cry from Bill Thomas's little engine to the huge articulated types of today.

A Matter of Technique

By P. M. ADAMS
Locomotive Engineer,
Canadian National

"Never Mind the Facts; Just Give Your Evidence"

THE CLERK at the Fleet Street roundhouse of the Canadian Central looked up from his typewriter at the pudgy-face passenger fireman who had come to book in from a hand-bomber run.

"Want to see you, Sam," he said, adjusting spectacles. "It's about the accident yesterday. That truck's a mess. The owner may sue."

Sam Lacy jabbed his pen into the holder and leaned on the well-worn counter. "I told you I didn't see any truck," he reminded the older man, "and I didn't see any accident."

The clerk, thin and partly bald, smiled

tolerantly. "Papers are here from the Legal Department. They've got to be filled out."

But Sam had worked hard that day, bailing coal into the insatiable maw of a locomotive. He was tired, hungry and dry. Impatiently he eyed the sheaf of printed forms on the desk. Enough paper to light up an engine, he decided. Wasting perfectly good material in wartime! Damn the red tape! Sam considered the pen and ink before him.

"Maybe I'd better book sick," he said.

"Might as well fill them out and get it over with," the clerk advised. "You can't beat these lawyers."

There was a note of resignation in the company man's tone which irked Sam a little. Why couldn't somebody heave a rock into this machinery of official foolishness?

"Watch my technique."

The fireman spoke cryptically. Stepping behind the counter, he sat on the window ledge by the desk. He yearned to get home and under the covers, but first he aimed to lift a pint at the corner beer parlor. Restricted hours. The place closed at eleven and it was 10:20 now. He could spare twenty minutes to beat those lawyers. So he asked:

"What accident are you talking about?"

"That affair at Oakvale yesterday morning," the clerk replied, inserting a printed form in the machine. "Your train hit a new truck, or the truck hit your train. The driver claims you should've stopped."

"They all do," Sam said wearily. "They think we got a wheelbarrow. Just drop the handles. But I didn't see any truck and I didn't see any accident."

"It doesn't matter. You were the fireman on Eighty-four yesterday. We have to fill out the papers."

"Papers for this and papers for that," Sam grumbled. "Soon we'll have to do our railroading in our spare time. What's first?"

"Scene of accident."

"I didn't see any accident."

"It happened at Oakvale."

"So I hear."

The machine began to click. "Oakvale, scene of accident," the thin man announced.

"Rub it out," Sam directed.

"What for?"

"I didn't see the alleged accident."

"It happened at Oakvale."

"How do I know?"

"I'm telling you." The clerk took off his glasses and cleaned them. "If the owner sues, you'll be a witness."

"To what?"

"To the accident."

"They'll have to stage it over again," Sam said brightly. "I didn't see it the first time."

"It makes no difference what you saw," the clerk explained. "All they want is your evidence."

THE FIREMAN digested that as well as he could. "Tell them the whistle was whistling and the bell was ringing," he volunteered, "and that's all I know."

"We have to answer the questions," the clerk persisted.

Sam Lacy glanced at the clock. Fifteen minutes more. He had to get up to the corner before they locked the door.

"Say, it wasn't a beer truck, was it?" he inquired solicitously.

"Lumber," the clerk said, erasing the answer to the first question. "What'll I put down as the location?"

"Unknown."

The middle-aged clerk pecked at the keys. "Scene of accident unknown," he quoted.

"That'll perk them up," Sam declared. "Air of mystery, and all that."

"Time of accident?" the clerk continued.

"Ditto," Sam told him.

"Ditto, hell," the older man exploded.

The fireman relaxed. Apparently his technique was working well. "Just ditto, never mind the geography."

"What time are you due at Oakvale?"

"Seven forty-three."

"That gives us the time of the accident,"

the clerk stated, fingers poised over the typewriter keyboard.

"Not since the war got going," Sam objected. "We were late. Better make it ditto, like I told you."

The clerk tapped the keys. "Maybe they want the truth," he said reflectively. "Next. Weather conditions?"

"Where?"

"At the scene of the accident."

"What accident?"

"The one at Oakvale."

"I didn't see any accident," Sam said, "and not much of the town, either, the way we were traveling. But you can say it was about 140 degrees in the cab all the way."

"Was the locomotive headlight burning?"

"In the daytime?"

"The lawyers want to know."

"They would!" Sam was disgusted. "Tell them I couldn't see it in daylight from the cab."

"You don't know whether it was on or off?" The clerk slapped at a fly on the bald spot of his head. "Damn that fly!"

"That's right."

"Now, look here—"

"Yeah, look at the clock," Sam said. "We've got ten minutes more. Are you sure there was an accident?"

"The Legal Department says there was."

"They must be slipping to admit such a thing," the fireman commented. "What's next?"

"We haven't finished with the headlight."

"I have," Sam contradicted. "Tell them to ask the truck driver. He ought to know, if he was out in front."

The clerk read the printed form. "Where were you and what were you doing at the time of impact?"

"What impact?" Sam inquired.

"When the train hit the truck."

"But I didn't see any truck."

"You were in the cab, weren't you?"

Sam replied: "I wasn't sitting on the roof or out polishing the bell."

"Were you on the seat or doing something else?"

"Who knows?" countered the fireman. "They want to know where you were."

"They should've taken a movie."

"Where were you, Sam?"

"Oh, hell!" said the victim. "Tell them I was operating the stoker and the blower and the water-pump as required; watching the water-level and the steam and the coal and the jet pressure and the smoke, and helping the engineer to look out the window."

"You were actually doing all of these things at the time of impact?"

"I didn't see, hear, feel or even smell any impact," Sam retorted.

"We'll tell them that you don't know where you were," the clerk said.

"That's a fact," Sam agreed.

"Now, speed of train at point of danger?"

"I didn't see any point of danger, or I would have joined the birds."

"How fast were you going?"

"How would I know? We had no speedometer and I didn't think to count telegraph poles."

THE CLERK smiled faintly in spite of himself. "How fast would you say?"

Sam Lacy took a deep breath. "About four hundred and fifty miles an hour."

"This is strictly for legal purposes," the clerk reminded him sternly. "You couldn't have been going that fast."

"Maybe not, but it felt like it."

The thin man consulted the runner's statement. "Your engineer says you were making about eighty miles an hour."

"His old man was a whale of a liar, too," Sam mused. "Say, if that engine had a tailpiece she'd take off. They could use her for an observation plane."

"What shall I say?" the clerk inquired patiently. "Schedule speed?"

"No, we were late," Sam recalled, "and my mate was trimming the card. Better make it flying speed." He looked at the clock. "We've got five minutes left," he observed.

"Was the brake applied in emergency?"

"What for?"

"When the train hit the truck."

"But I didn't see any truck."

"The train hit it and tore the front off."

"Anybody hurt?" Sam wanted to know.

"No, but the owner may sue, and our Legal Department is hot after this information."

"They'll be hotter when they get it," Sam predicted.

"How far did the train proceed from scene of accident before coming to a stop?" the clerk asked.

"I couldn't say," the fireman answered thoughtfully. "I didn't see any accident."

"So you said. Where did you stop?"

"Down near the jam factory."

"How far is that from the crossing?"

"I didn't notice. I was waving at the girls."

"Did vehicle hit train or train hit vehicle?"

"I didn't see any vehicle."

The mild-mannered clerk consulted the runner's statement again. "He says truck hit right side of engine at cab steps."

"I was on the left side of the cab," Sam averred. "I couldn't see through the boiler —and her full of dirty water, too."

"You saw the steps after you got stopped?"

"No, they weren't there."

"They were damaged?"

"I don't know. They weren't there."

"Did train back up to scene of accident?"

The fireman stared incredulously. "With Ninety-two on our tail?" he demanded. "We had to get going or take a poke. No time to flag with her coming down the stretch with her neck out. Any more questions?"

"We're halfway down the first sheet." the bespectacled clerk said politely.

"How many more sheets?"

"Five or six."

"Is that all?" Sam remarked. "I can see how these lawyers make a living."

"We must answer all the questions," the clerk said. "Company rules, you know."

The fireman stood up. "I've got to reach the corner before they lock the door," he stated with decision. "Book me sick, Baldy, and make it official. I'm on my way."

"But you're *not* sick, Sam."

"I will be if I don't get the hell out of here right away."

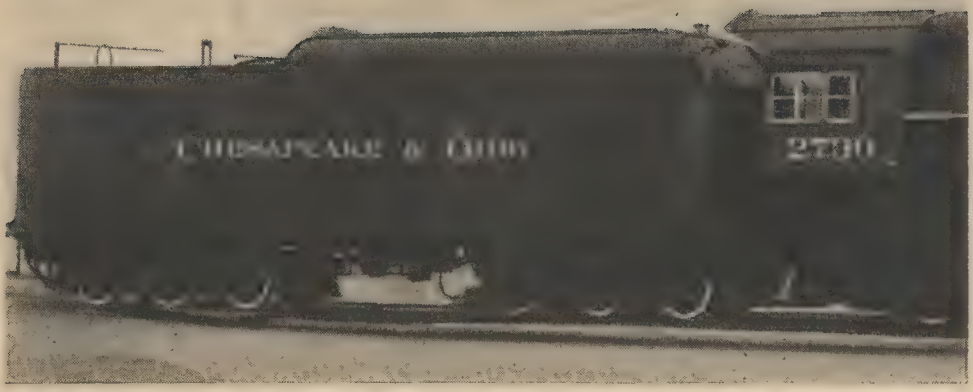
Sam leaned over the machine and scanned the typewritten answers to the questions. The total effect was clear. The stuff would be about as useful in a courtroom as a mail clerk on a handcar.

"You can't beat these lawyers," droned the clerk.

"You can if you give them the right answers," Sam flung back over his shoulder as he turned the doorknob. "It's a matter of technique."

Photo by Joe Lavelle, 4615 66th St., Woodside, Long Island, N. Y.

THE ADDITION you see on the left side of some tanks increases coal capacity without blocking the engineer's view to the rear. No. 125 operates in the D&M yards at Bay City, Mich.



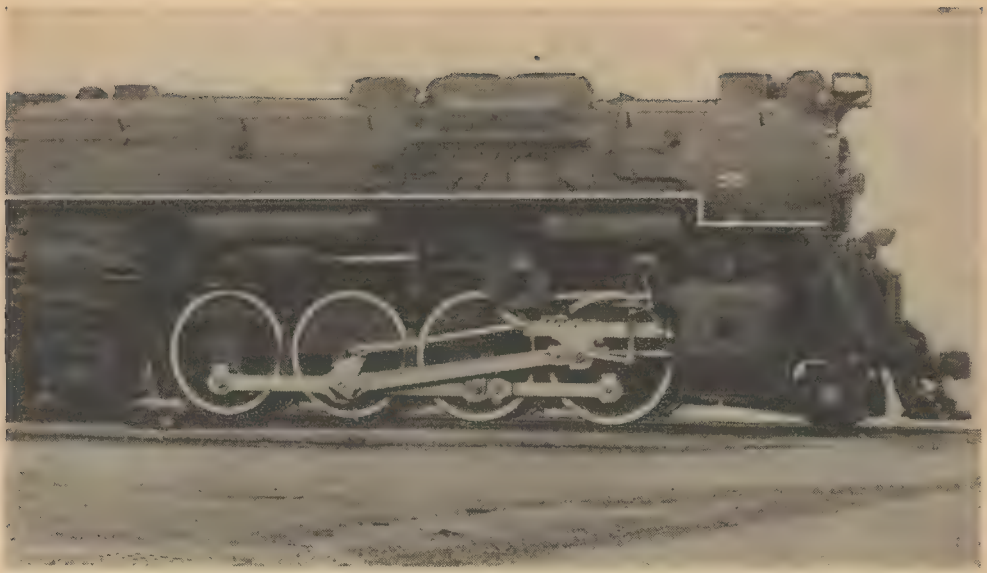
Locomotive of the Month:

K-4 Berkshire Type

SINCE Pearl Harbor the Chesapeake & Ohio has put into service a total of seventy steam locomotives, of which sixty-eight are of three wheel arrangements never before used on the road. These are the 2-6-6-6 (Allegheny) type, the 4-6-4 (Hudson) type, and the 2-8-4 (Berkshire) type. Each represents an advance over previous engine designs applied in comparable service—the speedy Allegheny articulateds developing a starting tractive effort nearly as great as that of their low-wheeled 2-8-8-2 predecessors, the Hudsons showing an increase of 4500 pounds over the road's most powerful Pacifics, despite an increase in driving wheel diameter of from 73 to 78 inches, and the Berkshires rating 69,350 pounds starting tractive effort, plus 14,400 pounds booster effort, as against 67,700 pounds for the largest C&O Mikados.

Clue to the outstanding motive power need of the system is the fact that forty of the new locomotives are of the 2-8-4 wheel arrangement—a machine already proven on three Chesapeake & Ohio cousin roads, the Erie, the Nickel Plate and the Pere Marquette, as being particularly suited to manifest freight hauling in regions where grades are severe. As a matter of interest the specifications of Berkshires of all four roads are listed on the opposite page. It will be noted that the new Class K-4 most closely resembles the PM machines. This is not happenstance; WPB having ruled that wartime designs must conform to existing standards.

In appearance, however, the C&O engines present a pleasingly distinctive design. Conforming to road practice the headlight has been placed beneath the smokebox front. Illuminated number plates appear on either side of the front-end bell and a large, rectangular sandbox straddles



the completely-jacketed boiler, well forward, where its capacity is not restricted by full barrel diameter.

Behind the spacious cab trails the largest tender ever applied to a 2-8-4. Walling up thirty tons of coal and 21,000 gallons of water, it weighs 393,000 pounds when fully loaded. Its counterpart can be found on the C&O's eight Hudson types, making for complete interchangeability of parts. The same holds true of many of the locomotive adjuncts, including high speed booster-equipped trailer trucks, Timken roller bearings on all axles of both types of machine, and identical grate design.

In service the Berkshires have been assigned to all parts of the main line and principal branches, except the Chicago and Richmond divisions. Tonnage ratings are in general 20 percent greater than those for the Mikados supplanted.

Berkshire Specifications

	C&O	*PM*	*NKP*	*ERIE*
Class	K-4	1200	S	S4
Cylinders	26x34	26x34	26x34	28½x32
Drivers	69	69	69	70
Pressure	245	245	245	250
Weight on Drivers	292,000	278,000	254,000	286,000
Weight of Engine	460,000	445,500	416,000	468,800
Tractive Effort:				
Engine	69,350	69,350	64,100	72,000
Booster	14,400	14,400	.....	13,000
Weight of Tender	393,000	358,000	358,000	378,000
Capacity, Tender:				
Coal	30	22	22	28
Water	21,000	22,000	22,000	20,000
Builder	Alco	Lima	Alco	Lima

True Tales of the Rails

Premonitions

By HERBERT G. MONROE

Ex-Southern Ry. Trainman

RAILFARING MEN, like sailors, are subject to hunches to a greater extent, I believe, than the general run of people. This statement was even more applicable some years back, when I began braking on the Southern. Ours used to be a very hazardous calling. Rails were light, dirt or cinders being used instead of crushed stone ballast. Safety appliances were few and wrecks frequent. Train- and enginemen rubbed shoulders with Death. Is it any wonder that superstition on the roaring road was more prevalent forty or fifty years ago than it is today?

Talk with the old heads. They won't admit being superstitious, of course; but maybe you'll catch one of them with his guard down and he'll tell you about a hoodoo engine, or the ghost in a signal tower, or a series of three wrecks in which the second and third followed inevitably from the first.

Some veteran trainmen refuse to sweep out a caboose after dark, for fear of bad luck. Even today you find trunk lines which do not own an engine numbered 13. Plenty of passengers would balk at sleeping in a Pullman berth with that number, even if one were available, which I understand is not. Cases have come to my attention of some railroaders declining to go out on runs because of premonition and others accepting the call in spite of hunch and going to glory in tangled steel and scalding steam.

There's an amusing side to this subject, too. I know an engineer, Sam Mus-

ETV&G shops and turntable (no roundhouse) in Atlanta, 1886

grove by name, whom the boys called "Black Cat." Why? you ask. Well, it was like this:

One bright Spring day Sam sauntered over toward the roundhouse to report for duty. His wife, with time hanging heavy on her hands, walked along with him, and he was entertaining her with yarns he had picked up from the gang. He stopped short. A huge black tomcat had just emerged from behind a wall to his left, and was meowing as if to ask:

"Going out? Going out?"

"Hell, no!" the engineer spluttered. "I'm going back home."

HERBERT MONROE at eleven, four years after John Cheaves' death

This he did, turning his wife around and heading back to the house with her. The cat story soon got around, by means known only to gossip mongers. Two days later, when Sam appeared at the roundhouse he was slightly dumfounded to see a group of nut-splitters, hoggers and tallowpots standing near his Consolidation-type engine waiting for his arrival; and as he climbed into the cab a male chorus sang out:

"Hi-ya, Black Cat!"

Sam was bewildered for a moment, but tried to ignore the serenade. He slid to the ground with his long-necked oilcan. After carefully checking things over, as was his custom, and oiling the right side, he stepped across the rail in front of the pilot to face a sea of grins and smirks. Setting down his oiler on the pilot-beam, he bellowed:

"What in tarnation ails you fools?"

Hearty guffaws were the only reply. One man slyly glanced at the headlight.

Sam noticed then that someone had "engraved" a picture on boilerplate and attached it to the headlight bracket just below the boiler—the likeness of a cat.

"Well, I'll be damned!" he cried, a broad grin on his face rapidly turning to laughter.

Ever after that he was called "Black Cat." Yes, Sam was a good sport. In fact, he cherished the feline emblem and transferred it, in turn to each of the various engines he handled after that date, until some years ago when the Southern's motive power was chain-ganged.

NATURALLY, I do not claim that if Sam had disregarded the presence of the black cat crossing his path, something tragic would have happened. Omens of bad luck are numerous but you know

EAST Tennessee, Virginia & Georgia No. 163 made many runs with John Cheaves as fireman, after that road was taken over by the Southern. When this photo was made in 1886, No. 163 was on the turntable of the Windsor Street shops; Engineer Jim Collins in the cab, his fireman, Harry J. (Bully) Young is in the gangway, with roundhouse foreman Robinson on the ground. Jim's two children are standing up front

and I know that superstition of this kind is mere nonsense; I doubt if any railroad man in America today really takes it seriously. But I do not feel the same way about dreams. Since my brother-in-law, John A. Cheaves, met death in a collision after a dream that had seemed like a distinct warning, I am inclined to believe that in some cases nightly visions may portend future events. Not all dreams, of course, nor even a majority of them. But read the story and judge for yourself.

SAM MUSGROVE, whom the roundhouse gang called "Black Cat"

John was a soft-spoken young engineer, famous up and down the line for the tunes of his locomotive whistle. He met my sister Vashti in the early Nineties at Tallapoosa, Ga., where she and I were born and reared. Tallapoosa is a little town about halfway between Atlanta, Ga., and Birmingham, Ala.; it is split by railroad tracks that in those days belonged to the Georgia Pacific. My father was in business there, and our home stood near the tracks. A stiff grade winds up from the Tallapoosa River several miles to the west. The loud exhaust of eastbound freights can be heard several minutes before the laboring hogs blast into town.

During his courtship days John would start blowing the quill at the river bridge. The keen-toned distant whistle was barely distinguishable from the note of a whip-poor-will, whose plaintive call is often heard in rural sections as the shadows of evening gather. Many engineers tried to imitate Johnny's technique, but none I've ever heard had his precise knack of manipulating the whistle cord.

Married in 1895, John and Vashti set up housekeeping in Atlanta. A few months later, after the panic of 1895 had cleaned out my father's business, we also moved to the city. In 1897 we were sharing Cheaves's modest home on Pulliam Street, near the Windsor Street shops and roundhouse of the Southern Railway. Three years before that, the Southern had absorbed the Georgia Pacific, which became its Birmingham Division.

One fateful night in August, 1897, John had a nightmare, going through the motions of what he would do in a head-on collision. Although apparently sound asleep, he shouted for his fireman to jump. Then he leaped up himself and grabbed the bed posts as if shutting off steam, applying the brakes, pulling back the old-style sand levers and finally reversing his engine. This commotion awoke and terrified my sister. The dream was so realistic that it took some time for her to arouse John and convince him that the whole thing was only a fantasy.

My sister soon dismissed the incident from her mind, but I am quite sure that John never did. Then came Sunday, August 25th, a day which Vashti would never forget. Twilight had begun to shroud Pulliam Street when a callboy sauntered down the sidewalk, swinging his lantern and whistling a popular tune. He passed the homes of several enginemen and turned in at our walk, still whistling. A knock on the door. Mr. Cheaves was wanted to wheel a freight to Birmingham that night.

When the callbook was handed to him on the front porch, John's face clouded and he hesitated to sign. But times were hard; the calls were often far apart. He must have been thinking of those things, as well as of his dream. Nevertheless, with a firm hand he wrote his autograph and went back into the house. John stood more than six feet tall in his stockings. While he was waiting for supper to be prepared, he stretched his tall frame on

ABOVE: Mrs. John Cheaves, wife of the engineer. RIGHT: J. J. Evans, conductor on Cheaves' final run

a couch. As my mother came into the room to invite him to eat, the engineer remarked with a faint smile:

"Mother, wouldn't I make a long corpse?"

Mother, not knowing the uneasiness in his mind, agreed with him and let it pass as a joke. But at the supper table she became slightly alarmed when she observed that he would drop his knife or fork and stare into space. She sensed that something was wrong. John quickly finished eating and left the table to get his grip in the hall. Mother followed, asking what was troubling him.

"I dread going out tonight more than I ever have before," he said thoughtfully.

"Then don't go, son," she pleaded. "Something terrible might happen to you.

John forced a laugh. "Don't worry, mother; no engine is going to hurt me."

A few minutes later, after a good-bye kiss to his wife and one-year-old daughter Mary, he walked rapidly up the street. He paused at the corner where the old carbon street light was burning, and waved a last farewell as we stood at the sidewalk gate.

JOHN CHEAVES undoubtedly sensed that Fate was closing in on him then. He boarded his engine, a Consolidation type, at the South Shops on Windsor Street. Shortly after midnight he stopped at Tallapoosa where my brother Jack was still staying. Jack wanted to go to Birmingham with him on that trip. My brother-in-law had never before refused to let the kid ride his engine, but on that occasion he shook his head firmly.

"Some other time, Jack—not tonight!"

John climbed into the cab. When he reached Anniston, Ala., orders for him and his conductor, J. J. Evans, lay on the operator's desk. Meanwhile, a slag train in charge of engineer J. C. Schemine, known as "Bub," "now retired" and Conductor Pipkin had left Birmingham some time before; and the flimsies awaiting John's train were orders to meet the slag extra at Cook Springs, twenty-seven miles east of Birmingham.

The Grim Reaper must have sat in with the dispatcher in Birmingham that night. John Cheaves was dealt a losing hand by what are known as lap orders. He was to hold the main stem and meet the extra at Cook Springs; but Bub's orders told him to head in at Eden, a station which John would pass before reaching Cook Springs.

Bub wheeled the slag through Cook Springs while Monday dawn was breaking. About the same time, John's little old mill was talking to the world as he whistled through Eden. The two freights were now racing toward each other at a fast clip—but nobody knew that except the dispatcher; and it was now too late for DS, who had realized his mistake by this time, to stop them from meeting in a crash.

Bub had started to roll a cigarette when he rounded a curve and saw John's headlight staring at him. The cigarette was never smoked. Bub shut off steam in a split-second decision, applied the brakes, and flung himself out the window almost immediately after his fireman had "joined the birds."

John must have caught sight of the extra at the same instant that his headlight shone on Bub's face. The time was 6:15 a.m. My brother-in-law yelled something to his tallowpot, Bob McGrady, as he "big-holed" his Consolidation. Bob urged him to jump.

"I'll get off," said John, swinging the reverse lever. That was the last thing Bob saw the engineer doing as he himself bounded out from the left side.

The few seconds that John Cheaves spent reversing his engine were fatal. There wasn't time after that for him to go to the left, although the ground sloped away from the track at that point. Instead, he leaped out from his own side of the cab, where a ten-foot embankment rose sharply. Before the unlucky engineer could scramble to the top, climbing frantically with hands and feet, the two locomotives met head-on in an ear-splitting crash that was heard for miles.

After the dust and flying debris had settled, members of the two crews showed up one by one beside the shattered engines. John was not among them. Much worried, the other men set out in search of him among the wreckage. Three or four cars behind his engine they came upon a hobo, seriously injured, and questioned him.

"Engineer?" gasped the bum, clenching his teeth in pain. "I saw him tryin' to get up that bank when a car caught him."

A minute later they found my brother-in-law, dying. They lifted him and the tramp away from the track and laid them both on a broad flat rock; and there, with a whispered message for Vashti, John passed on to glory. In his pocket they found a well-thumbed Bible, which

SOUTHERN Consolidation type of the 300 Class, like the one on which John Cheaves met his death. Big power then, these engines were called "Jacks;" No. 349 is shown at Inman Yards, Atlanta, as she waited for the scrap-pile

had several passages referring to death marked out in pencil. Eventually that Bible was given to me; and I still have it, forty-seven years after the wreck.

My sister learned the sad news upon returning from a trip to the city, where she had gone shopping. Later she told me of a strange sensation that had come over, like chilling fingers, when she purchased articles for my brother-in-law. It was then she remembered his dream.

J. Sidney May, an engineer friend of John's, living at Avondale, Ala., wrote eighty-eight lines of verse in memory of him, which began:

The night was dark, the wind was still,
The stars alone shone bright
And birds that warbled all the day
Had gone to rest for night.

The poem goes on to regret that the deceased had been called on a freight run instead of being permitted to attend church. It tells about the extra rounding the curve, and then:

John blew for brakes with the whistle;
Reversed, but jumped too late.
A crash! Together came the trains,
And death was poor John's fate.

This poem also is among my archives. The victim lies in a small cemetery at Villa Rica, Ga., and on the headstone is sculptured a bas-relief of his engine. Vashti survived him only a few years. Maybe the dream I mentioned had nothing to do with his death, but I firmly believe my brother-in-law knew he was to meet the Great Trainmaster when he mounted his engine that night.

Green Lights Replace White

By HAYWIRE MAC

FORTY-ODD years ago, when I started braking on the Pittsburgh, Fort Wayne & Chicago end of the Pennsylvania Lines West, the clear signal indication was white. You remember that line is a famous poem by the late Cy Warman, "I hope the lights are white." The author had been a hogger on the Denver & Rio Grande narrow-gage and knew his signals. If Cy were writing that poem today he would use the word green instead of white. Maybe you want to know, "What brought about the color change?" The answer to that is the story I am going to tell you. It has to do with a disastrous wreck which had occurred on the PFtW&C just before I hired out there.

In those days the road had no electric signals west of Conway, Pa., or rather Rochester, a couple miles further west. The Cleveland & Pittsburgh branched off at this point, crossing Beaver River and continuing along the banks of the Ohio. The "Fort Wayne," or main stem, curved to the right at Rochester, following the general direction of the river to Brighton. There the main line crossed the river and started the climb up Brighton Hill, while the Pittsburgh, Youngstown & Ashtabula wended its way toward Youngstown and other Ohio steel towns.

East of Baden, Pa., which was the eastern end of Conway yard, four tracks led into Jack's Run, the western end of Allegheny yard. This portion of the pike was equipped with electric block signals on bridges that spanned all four tracks; and at the time I worked there the installation was comparatively recent.

Three-position boards governed traffic. These showed red for stop, green for caution and white for clear. Signal bridges stood about a quarter-mile apart. A clear indication meant there was no train in the two blocks ahead. A caution signal warned that the next board, a quarter-mile away, was at stop position. However, the rear end of a train might be only a car-length or so beyond the red board.

On the night of the wreck, March 3rd, 1901, several sections of a Pennsy passenger train were loaded with Ohio National Guardsmen on their way to Washington to march at President McKinley's inauguration. These sections trailed one another rather closely through a dense fog; and I might add here that Ohio Valley fogs are about the thickest I have ever encountered.

The third section was pulled by a little engineer named "Sporty" Long. Sporty ran on a green board for several miles, gingerly feeling his way. Both he and the firemen were leaning far out the cab windows when they passed the fated signal; and both testified later, under oath, that the signal light had shown white but the mist hung around it so heavily that neither man could be sure of the semaphore's position.

Before Sporty could settle back in his seat he found himself plowing through the rear coach of the section ahead, which had stopped only a few seconds before. An appalling number of people were killed or injured. Pennsy officials made a prompt and thorough investigation. Heads of the Union Switch & Signal Company, which had installed the signals, sat in on the inquiry. A surprising fact was brought out at this hearing. The red lens, or roundel, had fallen out of the "spectacle" frame, causing the signal light to show white even when the board stood at stop position!

This discovery created a big hullabaloo from engine- and trainmen. Both Sporty and his flagman were sharply censured by the brass hats, the runner for not ascertaining that the board, as well as the light, showed a clear position, and the flagman for failure to drop off when his train was "delayed."

I understand that after this accident Sporty never again pulled a throttle on the high iron. The last I heard of him, he was working as a hostler in the Allegheny, Pa., roundhouse. It seems that the poor fellow completely lost his nerve.

Meanwhile, the Pennsy made tacit admission that the signal installation had been faulty, by changing the hookup so there were *two* stop signals on each train instead of one. And, even more significantly, the circumstances attending this wreck led in time to adoption of the present system of light signals, whereby white indicates caution, regardless of whether the whiteness is caused by light shining through a colorless roundel or an empty socket from which the lens has fallen.

All of which goes to show that the railroad industry is constantly reducing train-operation hazards by doing away with possible causes of wrecks.

Three-Way Flagging

By R. P. MIDDLEBROOK
AT&SF Engineer

WHEN I WAS FIRING on the Santa Fe Coast Lines' branches to Escondido and Fallbrook, in southern California, twenty-odd years ago, there were no block signals in use in that territory. The trains I worked, Nos. 61-62 and 63-64, were shown on the timetable as first class, with certain restrictions as to main line movements. Those restrictions helped to create a three-way flagging problem one day, and produced a picture I'll never forget.

Special Rule 71 on the timetable stated that trains 61 and 62 "are inferior to all regular and extra trains between Escondido Junction and Oceanside (the branch lines' western terminus) and will move between these stations only under protection of flag." This was easy enough, because the yard limit board was beyond Escondido Junction, the track was straight, and the distance little more than a mile.

It was on the Fallbrook line that the situation was more complicated. Special

Rule 71 was more detailed: "Nos. 63 and 64 are inferior to all regular and extra trains between Oceanside and Fallbrook Junction, and will move between these stations only by train order or under protection of flag, except No. 63 is superior from 11:45 a.m. to 12:15 p.m. and No. 64 is superior from 2:25 p.m. to 3:00 p.m. to all except first class trains."

The yard limit board was about a mile out of Oceanside, across the bridge over the San Luis Rey River. Trackage was straight for a short distance from the depot, then dipped down into a cut and made a sharp curve onto the bridge, with vision being restricted to a few hundred feet. A highway crossed the river above the railroad bridge and eventually ran parallel to the tracks into Fallbrook Junction.

Conductor Day liked to sit around the telegraph office at Oceanside, until we had just enough time to make the Junction before our rights expired. When we got his highball, we'd tear out of town in a cloud of dust, barking dogs, and small boys on bicycles. Engineer Farmer used to grumble about short time, but his remarks never had any effect on the skipper, who always took his time.

One summer day we pulled out of Oceanside with just about four minutes to get over the two and a half miles to the Junction in time to clear the main line. Train 63 on that run consisted of No. 260, the famous old cross-compound called the "Richmond Tramp," which by that time had been rebult with simple cylinders, and one small, eight-wheeled, open-end combination car. Engineer Farmer swore that four minutes was the shortest time yet, and I stood amazed as he eased off on the throttle and just jogged along. I couldn't figure what he was up to, but his scheme was apparent when we reached the yard limit board.

There he stopped, and whistled out a flag. Three heads popped out of the baggage car door, and three watches came out of pockets for time comparison. Farmer propped his feet on the window ledge and appeared to be gazing at the cattle eating the lush grass just beyond the right-of-way fence. In considerably less than a minute, a pair of legs streaked past the engine and a red flag disappeared up the track ahead of us. I looked out and saw the rear brakeman tearing down the track in the opposite direction. When Farmer decided that the head man had gone a sufficient distance, he put old Two-Sixty in motion, and our caravan started slowly toward Fallbrook Junction.

But Conductor Day wasn't satisfied with our progress. The engineer and I grinned as we saw him drop off with a red flag in his hand, and climb through the right-of-way fence to the highway. He evidently intended to stop a passing motorist, ride over to the Junction, and flag for us from there. But no cars appeared.

The whole situation made a scene I'll never forget: one brakeman trotting up the track ahead of the engine, another jogging along behind us, and Conductor Day, in full uniform, his coat open and cap in hand, puffing up the highway beside our train, his red flag also floating in the breeze.

Engineer Farmer and I couldn't keep from laughing, and the day when we used three flagmen was the subject of a long-standing joke between us. Thereafter, as long as we were assigned to train No. 63, we always had plenty of time to get to the Junction.

Block signals were installed on that section several years later, and there was no longer any need for Special Rule 71, or another, unofficial expediting arrangement that the crew of our train worked out in the interests of efficiency. Whenever No. 63 left the main line at Fallbrook Junction on time, the rear brakeman would place a large rock on the switch stand. The local, or any chain gang crew, would see it and know that we had gone through; they could then proceed to Oceanside without the formality of flagging or waiting until our train was dead, as per Special Rule 71. The system must have been a good one, for we were never

tripped up on it, unorthodox as it was.

The Santa Fe's Fourth District, between Fullerton and San Diego, is now operated under centralized traffic control, and railroading there now is a far cry from the days when rules like Special 71 were necessary. But Conductor Day and his red flag, on a highway beside the Fourth District main track will always remain in my memory.

Rails Through Slipper Swamp

By ARTHUR B. CLARK

RUNNING ACROSS the face of Putman County, Florida, like a dark scar is a dense swamp called the Slipper. I knew it as primitive, deadly country, with tropical, almost unbelievable flowers coloring its depths. Stately yellow pines and old cypresses rear their heads like proud monarchs above the other jungle trees, while slender cabbage palmettos sway with the grace of vain coquettes. Slim, speckled cranes, called "crying birds" by the Seminoles, give their wailing mating call, and there are the songs of brilliantly plumaged birds. Huge frogs add their raucous croak to the forest orchestra.

This is a picture of the spot called inaccessible until man's industry and ingenuity made that word a misnomer. The Georgia Southern & Florida Railway penetrated and crossed the Slipper at its worst point. So deep were the mud and muck at its bottom, however, that a solid foundation had not been found for the fill and the bridge piling spanning it, during the several years that I worked for the GS&F. As a result, there was a five-mile per hour slow order over that stretch.

I never lost my dread of that gray-green hell, especially at night. I could imagine that some mythical monster was about to reach up and pull me from the engine cab and drag me down beneath those stagnant waters over which hung a malarial mist.

Shortly after I hired out on the GS&F in July, 1891, I was called to fire passenger for Engineer Lou Wiggins on a fast run connecting with the *Nancy Hanks* up in Georgia. With the help of old Lou I made good, and managed to hold the job for seven months. Then a senior man bumped me and I went firing local freight for Bill Caldwell, a confirmed boomer. Bill took a liking to me and, like Lou, tried to teach me the railroad game.

I soon learned from experience to fill the firebox to the crownsheet with wood, to pull my cap over my ears and my bandanna around my neck, and never to open the fire door while crossing the Slipper. These were not unnecessary precautions. I've seen a solid stream of insects enter the windows and ventilators of the cab at night and swarm towards the firebox. That would have been fine if hundreds of them had not detoured to take a nip from the crew. Just before a rain, the swamp fairly glittered with thousands of fireflies, and I have counted dozens of Jack-o-lanterns, those ghostly lights that come from rotting wood.

In the reflection of the headlights, especially after the old carbon-stick electric was adopted, it was a weird sight to see the great hoot owls, the cranes, and the coots. The night was often hideous with their cries and croaks, and the occasional roar of a bull 'gator would make the air quiver. Boxcars equipped with airbrakes were rare in those days. Trainmen were expected to club the handbrakes while making stops. Engineers soon learned though, to control the train with the vacuum brake on the engine while crossing the Slipper.

Some five miles south of the morass was a turpentine farm, consisting of many acres of pine trees in which a cup-shaped notch

was cut, with about three feet of blaze above. Pine pitch, life blood of the tree, oozes from the blaze and flows into the cup, from which it is scraped with a sort of spoon, emptied into barrels, and later hauled to the distillery. We stopped at this farm several times a week, spotted a car at the platform, and the camp prison labor loaded a car of turpentine.

Our head brakeman was a Negro named Alf. He would obey any command, no matter how dangerous, and rapidly acquired a reputation as a "jumper." All we had to do was point a finger at him, yell "Jump!" and he was off.

Shortly after we left the farm, the track made a long curve to my side. The conductor, a red headed cuss named Lane, decided to ride the locomotive to the next station. Taking possession of my seat-box, he called attention to an eight-foot alligator having a siesta on the road and using the inside rail as a pillow. Billie Caldwell was rapping the old Rhode Island for all she was worth, and the conductor and I were laughing and remarking what a surprise the 'gator was due to receive.

Suddenly, the engine seemed to rear up in the air and she came down with her trucks off the rails and buried to the saddle in that Florida muck. The first car turned a neat somersault, the five behind it played a game of follow-the-leader and piled up on top of each other. There we were all over the road in that dismal swamp and about seven miles from the nearest telegraph office at Hall. It was up to the conductor to get to the next station to call out the wrecker. Fortunately, he found a section gang working within a few miles of the accident and they hauled him to the telegraph office. We spent the rest of the night picking up the pieces. It taught us a good lesson, though, and we learned one thing—never dispute the right-of-way with an alligator.

NEXT MORNING, after a good rest, I was enjoying a fine Sunday layover when my mother called me with news that

an express on the Jacksonville, Tampa & Key West, a connecting road, had been held up and the messenger shot down in cold blood. The messenger was a popular resident of Palatka, southern terminus of the GS&F, and the town was in an uproar. Sheriff Jim Shelly organized a posse but made a mistake in picking livery stablemen, clerks, and other city men, instead of woodmen who were expert trackers and familiar with the swamps. A fruitless search of the ground around Buffalo Bluff was made but the bandits were well hidden.

Worn out by the exertion, the posse called it a day and returned to Palatka, leaving two youngsters to guard the drawbridge in case the robbers attempted to cross it to get into the Slipper. The guards, Tom Wiggs and a young Dutchman—I think his name was Schwartz—sat slapping mosquitoes, longing for a smoke, and perhaps napping, when the four murderers attacked them. The Dutchman killed one, for which he later received $250 reward from the Southern Express Company, but the remaining three broke through and disappeared in the swamp beyond.

Next day the hunt was resumed by every man who could climb aboard two flatcars. A line of men twenty feet apart combed the swamp but missed the killers. As soon as they had been passed, the bandits sprang to their feet and opened fire. In the battle which followed, two more were killed, but the leader escaped again. Before leaving on our run that evening, we received a message from the dispatcher, saying:

Look out for a robber and murderer for whom the sheriff is searching. He may attempt to board your train tonight. This man is armed and is a killer. Should you see him, do not molest him. Notify the nearest peace officer.

We were all pretty jittery after reading that note; that is, all except Billie. Nothing ever seemed to worry that fellow.

About halfway over our district, we picked up a steamshovel outfit. The fireman was a former schoolmate of mine who was ambitious to become a locomotive fireman. He rode on the engine with us and did most of the firing, which was okay with me. Naturally, we were all excited about the robber and bragged a lot about how, should he try to board the train, we would hit him over the head with a brake club, deliver him to the law, and collect the reward.

A. B. CLARK, 136 E. Worth St., Stockton, Calif.

We stopped at a water tank and I went back to fill the tender, the steamshovel fireman tagging along. I was standing on the tank spout, planning to play a trick on my friend by flooding the tender and wetting his feet, when I noticed him staring at the toolbox which ran across the rear end of the tender. His eyes were as large as saucers and his knees were knocking together.

"What's the matter?" I faltered.

"The robber!" he gasped. "He's holding a gun on us!"

I looked down at the toolbox and nearly fainted. The lid was raised slightly and, sure enough, the muzzle of a gun was sticking out of the crack.

"Mister," I said shakily in what I thought was a soft, kind voice, "don't move. I won't get you wet."

I finished filling the tender and, I can assure you, not a drop of water ran over the top of the manhole. The robber wasn't wet but I was; perspiration was running down my back in rivulets. I eased that spout up as if it were TNT and we tore back to the engine cab as if the devil was at our heels. Billie saw at once that something was wrong.

"What's the matter with you two bold men?" he asked. "Did you find your robber?"

"Yes, sir," we squeaked. "He's in the toolbox and he pulls a gun on anyone who goes back there."

Billie was skeptical but was taking no chances. He wrote a note to the conductor, explaining the case, and giving him explicit instructions how to act. He told Alf to drop off the engine, catch the caboose, and deliver the message. Billie then speeded up, pounding the old girl across the back until we arrived in Lake City.

The conductor was on hand promptly, and a consultation was held.

"Wait!" the engineer said. "We don't want to go at this thing half-cocked. First, I want to make sure that these kids aren't having pipe dreams."

With that he popped a fusee and tossed it against the end of the car next to the locomotive. It stuck and flared up brilliantly. The engineer and the conductor climbed over the wood to the back of the tender. The skipper kept his shotgun trained on the toolbox while Billie reached over with a packing hook and opened the lid quickly. A gray, woolly head popped out like a Jack-in-the-box and a decrepit colored woman, holding a crutch, sat up, crying:

"Don't shoot, ossifers! I'se jes' an ole nigger woman, tryin' to git to Valdosta, Georgia, whar my chillen lib. I ain't doin' any harm—jes' ridin'."

The poor soul had climbed into the toolbox to beat a ride and had placed her crutch under the lid for ventilation. Thus vanished the dreams of glory and reward which that other windy kid and I had cherished. We had mistaken a harmless woman's crutch for a gun and had developed a yellow streak. I don't know if the colored woman ever reached Valdosta, but it took many months for me to live down the stigma on my courage.

PROBABLY the worst shock I have ever received in all my years of railroading was when I heard that my neighbor and friend, Arthur Knox, had run

through the open drawbridge one night at Buffalo Bluff and was still under thirty feet of water in the cab of his engine. He had been engineer pulling freight on the JT&KW. Only two hours before I got word of his death, I had given him a highball with the advice not to take any wooden money when he arrived in Sanford. He had made some joking answer as he started off on a routine run.

The mystery of that wreck has never been cleared up. Arthur was pulling sixty-five "Lincoln pin," non-air cars, and coupled to the engine was a car of stock with a man in charge. The latter was supposed to have gone down with the locomotive but his body was never found. Also riding in the cab were a white fireman, whom Arthur had hired at the beginning of the trip according to custom, and a Negro brakeman. As a ticket had not been turned in for the trip, the fireman's name was not discovered, and his body would be mouldering in Potter's Field today had not the railroaders taken up a collection to bury him decently.

Not a man escaped the tragedy, and of all the animals only one was alive. This was a mule which had been able to climb upon the bodies of the drowned beasts and keep its head above water. The wreckers were guided to the scene by its braying.

As I said before, the cause of the wreck was never explained satisfactorily. In those days, drawbridges were a death trap at best. All signals governing the approach were operated manually by a lone draw tender. The man on duty that night was known to be a heavy drinker. It was general opinion that he was intoxicated at the time of the accident and had failed to swing the draw around far enough to line up the rails. His body was found hanging from a bridge rafter; presumably he had committed suicide. I suppose it's pretty easy to lay the blame on a dead man, and sometimes it's convenient, too, but all circumstances pointed to negligence on his part.

We had to send for a diver to recover Knox's body and to make the proper hitches on the engine to raise it. The scene of the underwater tragedy was described to me later by the diver, who boarded in my neighborhood. Somehow, in the crash, the forward end of the reverse lever quadrant had been torn loose from the boilerhead, had turned back and pinned Arthur's leg against the cab. Unable to get free, he had gone down with the locomotive. The Johnson bar was in back motion, throttle wide open and brake valve in emergency. True to the code of a railroadman, Knox had died at his post.

ON ONE TRIP north, while crossing a high fill, Alf and our rear man, John, were scuffling in the cab. John poked Alf who, with a wild yell, leaped from the gangway and rolled to the bottom of the fill. Bill Caldwell turned to find out what was going on, and asked for Alf.

"Alf's done gone," replied John.

"Then John is done gone, too," declared Bill, giving him a poke.

With a cry, the black boy dived from the gangway and followed Alf down the fill. The train rolled for some distance before it could be brought to a stop with the vacuum brake, and more time was consumed in backing up to pick up the brakeman. Bill gave them a good cussing and we proceeded.

It was John's last trip. Next morning the north and south local crews were making up their trains in the Lake City yards. John was riding a cut of cars when the other crew kicked a cut of loaded flatcars against his string, damaging several and throwing John from the top of a boxcar. When we reached him he was badly mangled. That hat was passed again and a large enough sum was collected to bury him. His funeral was attended by many railroaders, as he was respected greatly.

Yes, they say that we old rails are sitting pretty, with our annuity pensions. I'll admit that it's the truth and that we owe thanks to our great Brotherhoods. But I'd still like to ask: "How many of you would like to live over again those wild, free days of another era?" Just as I thought—the *ayes* have it.

Electric Lines

Conducted by
STEPHEN MAGUIRE

THE STREETCAR most familiar to us all in the past quarter-century was the little, single-truck, steel-bodied Birney, a type sometimes called the "rubber-stamp car" because all were built almost identically. Although thousands ran on big-city streets during the "roaring '20s," not so very many are left today.

Yes, the Birney led our trolley cavalcade in the years between the horse-car and the streamlined PCC. Surprisingly few people know its history, the origin of its name, and why so many of these vehicles appeared around the same period all over the States and Canada.

So let's go back to the year 1915. We find changes taking place in local transportation. The old-style trolley with its crew of motorman and conductor is succumbing to the success of one-man operation, which in earlier years had not been believed practical. Many companies see the economy of one-man operation, but realize that their own cars were not built to permit such a change.

Then, too, we notice a rapid rise in the number of automobiles on the streets. These, coupled with wildcat jitney busses, are taking a toll of streetcar receipts. Lines that heretofore had just about been able to keep out of the red now discover that

the loss of traffic to the gas buggies has thrown their financial balance to the wrong side of the ledger.

Costs of equipment and operation are soaring, too. It is only too clear that unless some drastic alteration is made, these "weak sister" lines cannot continue to operate much longer. Even the companies in sound condition are seeking ways to increase their revenue by using the one-man idea.

It was under these rather adverse circumstances that C. O. Birney, engineer of car design and construction for Stone & Webster, a corporation controlling a group of juice lines in the South, drew up plans for a new type of car. In later years this type became known as the "Birney" as a tribute to its designer.

Working in conjunction with the American Car Company at St. Louis, Mo., Mr. Birney completed blueprints for his first

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CITY: Steinway Lines *Birney* wends its way beneath New York elevated structure in Long Island City. Red and cream-colored car once ran in Beacon, N. Y.

COUNTRY: Waterbury & Milldale tramway operated double-truck *Birney* cars with center doors, until abandonment of The Green Line a decade ago

Birney Cars

"safety" car, as he called it, in the spring of 1916. It was hardly conceivable at the time that this vehicle would be the forerunner of several thousand to be operated in North America.

Strangely enough, Mr. Birney's success came directly from violation of a principle that had been followed almost reverently in the past—namely, the belief that every street railway line had a set of local conditions peculiar to itself which required a specialized type of car. As the designer for a company which had lines in several cities, Mr. Birney was aware that many traffic problems were common to most communities and that, in the design of equipment that could run in all of them under average conditions, there would be a great convenience and financial saving.

The first "Birney" to be built was a single-end, single-truck, steel-bodied car, 22 feet and 10 inches long, seating 30 persons. Except for its single-end operation, this pioneer was almost identical with those of later years. It featured "dead man control," a device regarded at that time as essential to one-man operation. When the motorman's hand is lifted from his controller, the air is applied in emergency and the car comes to a quick stop. This is made possible by a pneumatic connection between the airbrakes, doors and controller handle.

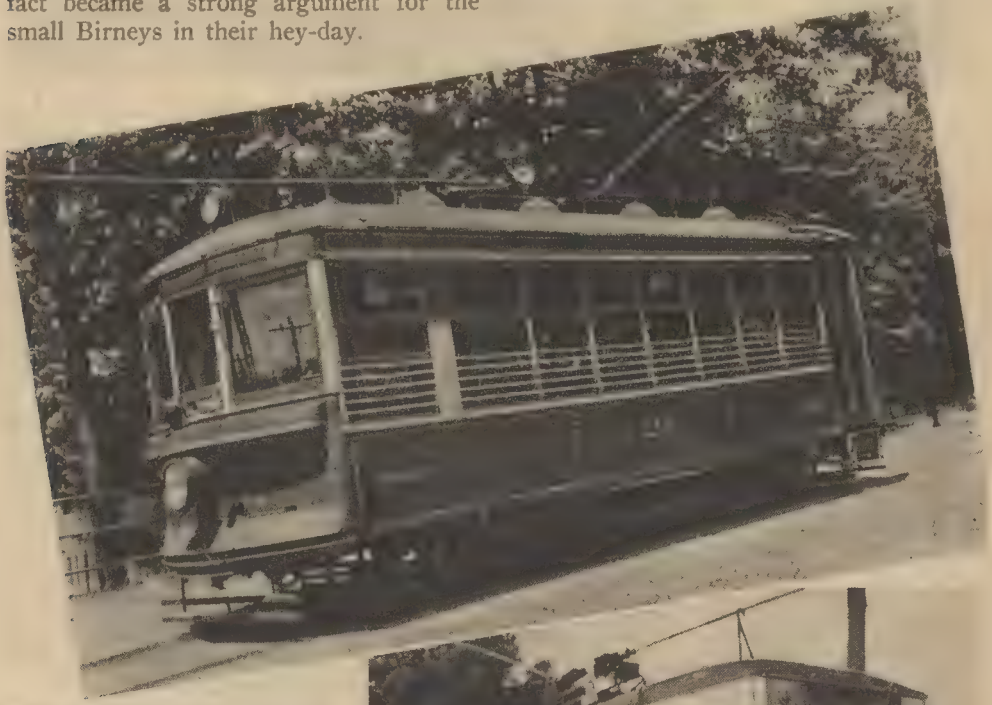
Why should the Birney car attain such general popularity? Primary reason was its economy in costs of construction and operation—always a good selling point. The usual pre-construction costs were eliminated. There was no need for preliminary drawings, nor for the mass of engineering and clerical work that usually followed an order for streetcars. Then, too, the Birney was perfectly adapted for one-man operation. The safety control features made it almost fool-proof. In fact, it was safer than the two-man car. There was no opportunity for misinterpretation of signals such as often occurred between conductor and motorman.

Its extreme light weight cut sharply the cost of operation. There was less power consumed, less wear and tear on tracks, in its 13,000 pounds of car, as compared with the normal car weight of that era, between 30,000 and 40,000 pounds.

Another reason for the huge popularity of Birneys was that better service could be given by using additional cars, yet the cost would be no more than that of running a smaller number of the big, heavy, older ones. And with additional cars on the streets, the prospective passenger was more likely to wait for one of them, rather than start walking to his destination. This fact became a strong argument for the small Birneys in their hey-day.

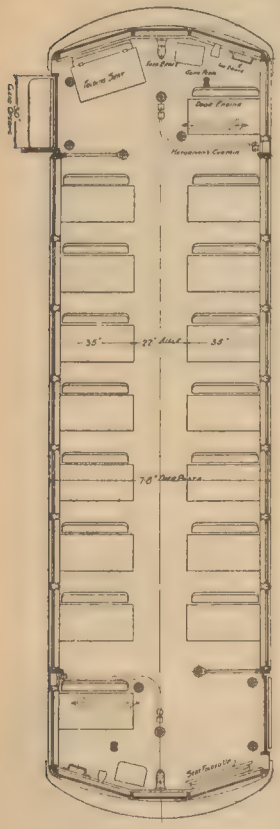
Popularity of the Birney safety car spread rapidly in the years following 1916. Some companies invested heavily in them, often vainly trying to continue rail operation on passenger-starved lines. Their operation was not confined to all parts of North America. Some even found their way to South America and Europe. Birney clubs were formed at which brass hats discussed the problems of this form of equipment.

Following the success of the single-truck Birney, a satisfactory double-truck car—built on the same lines, only somewhat longer—was designed and became as



LOS ANGELES city ordinance required wire fender on single-trucker 1047, one of fifty *Birneys* of LARY ROCKY SPRINGS PARK is terminus of one *Birney* car run at Lancaster, Pa. ARC AND ROOF HEADLIGHTS are carried on Montreal Tramway's No. 214 STREAMLINED *Birney*, converted by New Castle (Pa.) Street Railways before their swing-over to busses

FLAGLER-yellow Miami Beach car bobtailing across bay drawbridge in 1940. Trolley system was abandoned one year later



popular, if not more so, as its single-truck predecessor. In the years from 1920 to 1930 almost every city in the United States bought some variety of the double-truck Birney, in addition to the four-wheeled Birney. Sometimes fast interurban operation was maintained by these double-truckers, with operation at speeds up to 60 miles an hour. Take the case of the Texas Interurban, a railway built in 1923 to operate high-speed service between Dallas and Terrell, mainly on M-K-T tracks. This road used several double-truck Birneys to carry on this service, with satisfactory results.

Since many single-truckers were operated on routes having light traffic, hardly enough to support a rail line, it is sometimes said that the little cars were the cause of the roads being abandoned. However, were it not for the availability of Birneys, the lines probably would have folded up years before they actually did.

Increased bus operation in past years has absorbed numerous lines on which Birneys used to run. But there are still quite a number of the single-truck cars in service, along with the bigger eight-wheelers. Here's a list of American states and cities in which single-truck Birneys are still operating:

Ala., Birmingham; *Ark.,* Little Rock; *Calif.,* Chico, Los Angeles, Sacramento; *Colo.,* Fort Collins, Pueblo;

EXPORT *Birneys* have gone to all parts of the world in knock-down form. Brazil, a good customer, ordered many of the type shown in the diagram above. Designed for left-hand operation they were in all other respects exact counterparts of units used in this country

Fla., St. Petersburg, Tampa; *Ga.,* Savannah; *Ill.,* Peoria; *Ind.,* New Albany, Marion; *Iowa,* Council Bluffs, Sioux City; *Kan.,* Kansas City, Independence; *Ky.,* Louisville; *Maine,* Bangor; *Mo.,* Kansas City, St. Louis; *Neb.,* Omaha, Lincoln; *Okla.,* Oklahoma City; *Penna.,* Altoona, Lancaster, Philadelphia, Reading; *Texas,* Dallas, El Paso; *Va.,* Norfolk, Richmond; *Wis.,* Milwaukee.

Canada has four provinces in which Birneys still operate; *B. C.,* Victoria; *N. S.,* Halifax, Sydney; *Ont.,* Cornwall, Kitchener, Ottawa, Toronto; *Que.,* Levis, Montreal, Quebec.

Car-Barn Chatter

Steve Maguire

WE'RE GLAD to note that our June department which featured "World's Busiest Crossing," by Roy White, made an unusually good showing in the poll of reader votes for that month. The best previous score was in May ("Pittsburgh Railways"), when we hit fourth place.

On the strength of this, we are lining up picture-stories of trolley lines in other sections of the States and Canada. We want to hear from other fans about their favorite trolley companies, especially fans who can supply a variety of good scenic shots and others, all dealing with any one line.

* * *

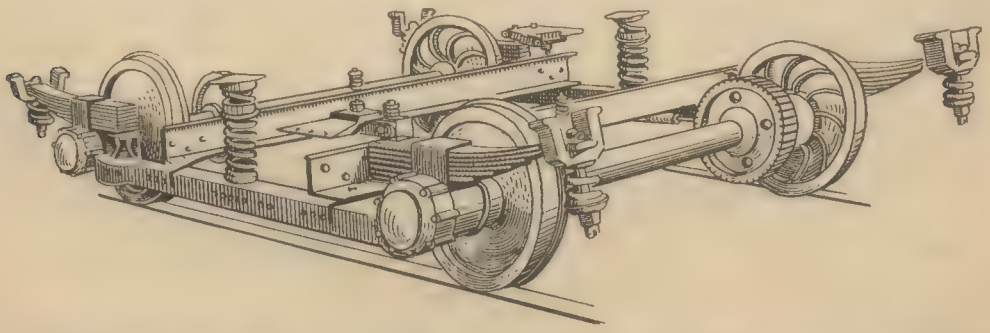
COLORED GIRLS are being used "for the duration" to replace motormen-conductors in one-man operation on some trolley routes in Philadelphia, Pa., and Brooklyn, N. Y., and appear to be handling the cars efficiently. We are curious to learn whether or not similar jobs are open to Negro women elsewhere. Will readers let us know?

* * *

NEW ENGLAND fans tell us that Pvt. Wesley Lancaster was slightly in error in his story of the Boston-to-Maine trolley trip (*May issue*). It seems that the Massachusetts Northeastern connected with the Eastern Mass. Street Ry. at Newburyport, not at Beverly.

We learn from O. R. Cummings, R. T. 3/C, USCG Tr. Sta., Groton, Conn., that the route shown on our map would not have been possible after 1918, as the line from Newburyport to Byfield, Mass., was abandoned in that year. Since Seaman Cummings is a resident of Salisbury, Mass., and familiar with local history, he speaks with some authority. He continues by mentioning that the line from Hampton Beach to Portsmouth was the Portsmouth Electric, *not* the Portsmouth Street Ry.

"Actually, there was one break in trackage on the Boston-Waterville trip," comments Donald E. Shaw, 94 Federal St., Springfield 5, Mass., "and that was at Portsmouth, N. H., where you had to take a ferry across the river to Kittery, Maine. It is true that the ferry was operated by the Atlantic Shore Ry., but there was no rail connection. In the early 1920s a bridge was built over the river connecting these two towns, and rails were laid over the bridge. However, by the time it was completed, the PD&Y, successor to Atlantic Shore, had folded up and no cars ever made the trip over the bridge. Except for this break, there



TRUCK that launched a thousand *Birneys*. Built by the Brill Company, it weighed only 3300 pounds with wheels and axles, measured eight feet between axle centers

CONTRARY to general opinion, all *Birneys* were not single truckers. The St. Petersburg Municipal Railway operates a number of eight-wheelers like the 112

was a continuous rail connection between New York City and Waterville, Maine."

* * *

LONGEST West Coast trolley trip was 205 miles from San Mateo to Chico, Calif., states Francis Guido, editor of *The Western Railroader,* 502 N. Claremont, San Mateo, Calif. He writes:

"Starting in San Mateo on the Market Street Ry. line to San Francisco, you rode into San Francisco and changed at Fifth and Market, to an East Bay terminal-bound city car. At the terminal you could take a Sacramento Northern interurban all the way to Sacramento and change in that city for a car to Chico. The entire trip could be made by trolley until August 26th, 1940, when the SN ceased passenger service. Before 1938 this trip would have required a ferry trip across the Sacramento River on Key System boats, but it would not have broken your rail trip, for SN cars were ferried across."

* * *

ANSWERING Vic Wagner's query on trolley-poles used as juice jumpers *(April issue):* the PRSL electrics operating between Camden and Millville, N. J., use poles connected for juice jumpers on trains of three to five cars. The information comes from Ed Haines, 110 E. Durham St., Philadelphia 19, Pa.

* * *

ANOTHER boomer car has appeared, largely as a result of a highway collision that caused the destruction by fire of Hagerstown & Frederick Ry.'s motor No. 6, we learn from Malcolm McCarter, AS, V-12, USNR, Mt. St. Mary's College, Emmitsburg, Md., vice president of Hoosier Railfans Club.

Because freight equipment on the H&F is very busy these days, the loss of this one motor slowed down their service. After much searching a heavy freight motor was located on the Capitol Transit, Washington, D. C. This car was originally used by the Washington, Baltimore & Annapolis. It is a 45-ton wooden motor, equipped with four 140 h.p. motors, now giving regular service on the Frederick-Thurmont run. Following its purchase, the car was promptly put into service with its old paint job from the CTC. and has recently appeared as H&F No. 1.

* * *

BAD NEWS. Coming events seem to cast their shadows across some fine juice lines. Post-war plans in three cities, El Paso Tex., Tampa, Fla., and Wildwood, N. J., indicate that the days of juice lines in those cities will be numbered when ODT restrictions are lifted.

Col. Peter O. Knight, president of Tampa Electric, announces that after the war his outfit will be forced to abandon street railway service.

"If the company had to carry its transportation department at a loss for years prior to these abnormal times, how can it be expected that the transportation department can

be continued when conditions return to normal?" he mourns. "I say it with a saddened heart; the public will certainly miss the street railway company that has efficiently supplied its needs for half of a century."

We agree with the last sentence of Colonel Knight's announcement. Perhaps it might be better if the Tampa Electric would have faith in their own modern and efficient rail system, instead of giving up without further resistance to a wildcat bus competitor.

In Wildwood the death knell of that famous open-car line seems to have been sounded by the announcement of the purchase of the entire line by Earl Johnson, an official of the Brigantine Transit Co., and the Lincoln Transit, bus operators.

El Paso juice lines, extending into Juarez, Mexico, appear to be near the end of their days. An affiliate of the National City Lines, Inc., has bought them. Since the NCL represent a combination of powerful bus and gasoline interests, there can be little doubt but that their purchase is for the purpose of changing over to bus and gasoline operation, despite what the public may prefer, such as has happened in many of the smaller West Coast cities.

* * *

REMEMBER that proposed book, *The Electric Interurbans,* which has been mentioned several times in these columns recently? Well, excerpts from the manuscript, compiled by the Ohio Writers Project, are being used in each issue of the *Eastern Ohio Bulletin* of the NRHS.

Lacking money for publication of the material as a whole, the manuscript is being included, piecemeal by featuring a different Ohio trolley line in each issue of the *Bulletin,* the data being secured from the Writer's Project. Copies of the *Bulletin* may be secured from Joseph Galloway, 3627 Torrance Dr., Toledo 12, Ohio. It is issued monthly, the subscription price being 50 cents a year.

* * *

SOO LINE

WILD RIDE on Soo Line tracks was taken by the Minneapolis Filtration Plant's only trolley early last April. Hugo Middlestaedt, 3817 45th Ave. S., Minneapolis, Minn., sends us this information. You may recall reading about this trolley in *Railroad Magazine* several years ago. It seems that the City of Minneapolis owns the one car, which it uses daily to carry workers to its water works. The car operates

TAMPA (Fla.) Electric uses *Birneys* exclusively. They are of both the single and double truck design

MOBILE, Ala., residents: Cast a mournful eye at this safe and roomy streetcar. Wouldn't you like to have your abandoned trolley system back?

from the central city, running on its own right-of-way to the outlying filtration plant.

Well, M. E. Handy, the motorman, parked the trolley on a hill prior to his regular run. When he went into a store, the car decided to take a run for itself. Handy saw his pet moving downgrade madly and tried to catch up to it, but was injured while attempting to climb aboard.

Downgrade the car careened, moving onto the local streetcar tracks. There was a spurt against traffic down the city street. Then it took a 90-degree turn and headed for the Soo Line siding. A derail device at the Soo Line connection had little effect on the trolley, which sailed right through onto the main stem. After a short run down the wireless steam tracks, it took a siding. There the airbrakes automatically set, bringing the runaway up to a halt a mile or so from the start of its trip.

The car proved to be little the worse for wear. Pushed back to electrified trackage by a Soo switcher, it was ready for another run.

* * *

WHO KNOWS? "When I visited Jacksonville and Medford, Ore., in 1922, I saw some old abandoned cars from a steam and electric line which I believe must have connected these towns," writes Walter S. Young, Genoa, Nev. "There were two engines, several freight cars and street cars, all deserted and idle. I have often wondered what lines they ran on and when they were abandoned."

Can any reader fan answer this one?

ONLY city-owned trolley in Minneapolis, this one-spot hauls workers to the local filtration plant, and in spare moments handles steam road interchange freight

CONDUCTORETTES had difficulty walking catwalks of Wildwood, N. J., Five Mile Beach Railway open cars, so the company enclosed the little green and white trolleys. Here's Number 22 loading at t e seashore resort

MOBILE'S last trolley ran in 1940, we learn from Lt. Paul L. Gaston Jr., Lincoln Army Air Field, Lincoln 1, Neb. When the wartime traffic in Mobile rose to unprecedented levels early this year, local citizens suggested that at least three trolley lines be put back into service. Buses had failed dismally in handling the patrons—which does not surprise us.

But when a check-up was made, the public-spirited citizens were unhappy to learn that the cars had been sold to South America, copper wire was unobtainable, and most of the rail was covered with asphalt! In short, Mobile is out of luck.

Paul says war has delayed the final departure of Lincoln's trolleys. This has created a situation similar to that in Chattanooga, Tenn., where a bus outfit operated the streetcar line. Out of 60 miles of track in Lincoln, only 10 are still in operation. One reason for the passing of the city's trolleys, according to Paul, is poor track construction, which has resulted in the remaining rail weaving and rippling like a garden hose.

* * *

GARY RAILWAYS now has only three lines running, one on the main street, another the interurban to Hammond, Ill., and the third a local line to the coke plant, writes Stanwood Griffith, Jr., of Ashton, Illinois.

Stan tells us that he stopped off in Gary on his way home from an induction station. The cars there present a strange picture, running down the main street with headlights on the roof. Reason for this is that they aren't really city equipment at all, but are remnants of the fine interurban system that used to operate out of Gary.

"There are 41 cars operating in Gary, all interurbans," he adds, "but an official at the barn said he expected they would change to busses at the end of the war. I'm glad I managed to visit there when I did."

* * *

"ONCE an attempt was made to build a line from Springfield, Ill., to my former home town of Jacksonville, Ill., but it was never completed," writes Edwin B. McDowd, 1207 W. Leland Ave., Chicago 40. "The roadbed was completed, with cuts and fills, and all they needed were rails and wire. That was in 1912, but the project never went beyond that. I wonder who can tell me why."

Edwin informs us that he has read every issue of *Railroad Magazine* since February '38 and has them all at home. He will give them up, for postage, if he can be sure they would go to service men of the Allied armies overseas.

PACIFIC ELECTRIC'S Car 1497 has been converted from passenger to express service and back again so often that shopmen are considering designing demountable sides. See item below

"If they would go to a Yank soldier in the Army of Occupation in Berlin or Tokyo, I will be glad to pay postage via Air Express," he chuckles.

* * *

SECOND volume of *Trolley Trails Through the West* has just been published by Robert S. Wilson, 708 S. 9th Ave., Yakima, Wash. This 61-page booklet is replete with information on juice lines in Seattle and Yakima, Wash. It also contains several nostalgic poems on trolleys, written by the author. Copies of Volume 2, also Volume 1 published last year, may be had by writing Bob; each volume 25 cents.

PACIFIC ELECTRIC car situation must be easing up a bit. Stuart A. Liebman, 12028 Miranda St., N. Hollywood, Calif., makes this report after seeing one of the vehicles that PE had converted from a box motor into a passenger car last year, back again as a motor. Stuart tells us that this specimen, originally passenger car No. 830, was revamped into a box motor several years ago and renumbered 1496. Then in 1942, along with the passenger car shortage, 1496 was metamorphosed into a passenger car again, No. 823. Now it's once more car 1496. A bit confusing, eh?

ROOF HEADLIGHTS on Gary, Ind., local cars are a reminder of the days when they had long interurban runs, advises Stan Griffith of Ashton, Ill. Note his item

The Rise and Fall of Ben Holladay

Ben Holladay

NEARLY forty years after the death of Henry Villard, one-time President of the Northern Pacific, the Oregon & Transcontinental and the Oregon Railway & Navigation, a rather sensational monograph of his has finally been published under the innocuous title *The Early History of Transportation in Oregon.* Because there was so much potential dynamite packed in this work, the author requested that its publication be delayed for many years.

Henry Villard's book, 100 pages, was edited by his son, Oswald Garrison Villard, former editor of *The Nation,* and published by the University of Oregon, Eugene, Ore. It sells at $1 paper-bound, $2 cloth-bound.

Since this is a first-hand account of dramatically important railroad events of more than sixty years ago, events in which the author himself took a leading role, and since, as his son says, Villard took "great pains to be accurate in the compilation of facts, dates and figures," the modest little volume deserves a wide circulation. No book that we know of has a more valid claim to be regarded as authentic source material in railroad history. It turns a shaft of clear new light on the rise and fall of the almost fabulous Ben Holladay, as well as events leading to completion of the Northern Pacific.

Villard was a successful journalist before he took up railroading, and had the knack of expressing himself in terse, picturesque English. His book is scholarly but not academic. The serious reader will peruse it for entertainment and save his copy for future reference. A fair sample of the author's style is his vivid appraisal of the man who dominated Oregon, its politics and transportation facilities, in the early 1870's. Villard writes:

"Holladay had a fine presence and was dressed in the latest fashion. He appeared a gentleman, at first sight. But the real nature of the man in the fine clothes was indicated by the display of jewelry on his person, diamond rings and studs, a very flashy watch chain of heavy links of gold-bearing quartz, and a cane with a long handle of richest polished quartz. What this vulgar personal ornamentation suggested was confirmed by his speech and manners, which betrayed him as a low fellow. A short intercourse with him sufficed to disclose his illiteracy, coarseness, presumption, mendacity, and unscrupulousness. Yet with these evil qualities he combined considerable natural intelligence and shrewdness which gave him cunning and acuteness in business matters."

The chicanery, double-crossing and downright dishonesty by which Holladay built up his railroad empire in the semi-wilderness of the 1870 Oregon is set down with details in Villard's book. We can understand why the author preferred not to release this work for publication during the lifetime of certain characters who figure in his narrative. Because of Holladay's record, readers are not likely to be moved to tears at learning what happened to the ex-teamster after his removal from control of the Oregon & California Railroad. Villard states:

"He never recuperated financially, and sank at once into utter insignificance. He died at Portland, Oregon, in 1887. He spent the last years of his life in that state, struggling with poverty; but he played no part, either socially or politically, and furnished convincing proof that, but for the influence he commanded as head of the corporations, he would never have risen above the ordinary level."

The author also tells of his dealings with Jay Gould, another shrewd railroad baron, who "waged a virulent war on me till early in '79," and relates how he (Villard) obtained control of the Northern Pacific shortly afterward

By HARRY F. THOMAS

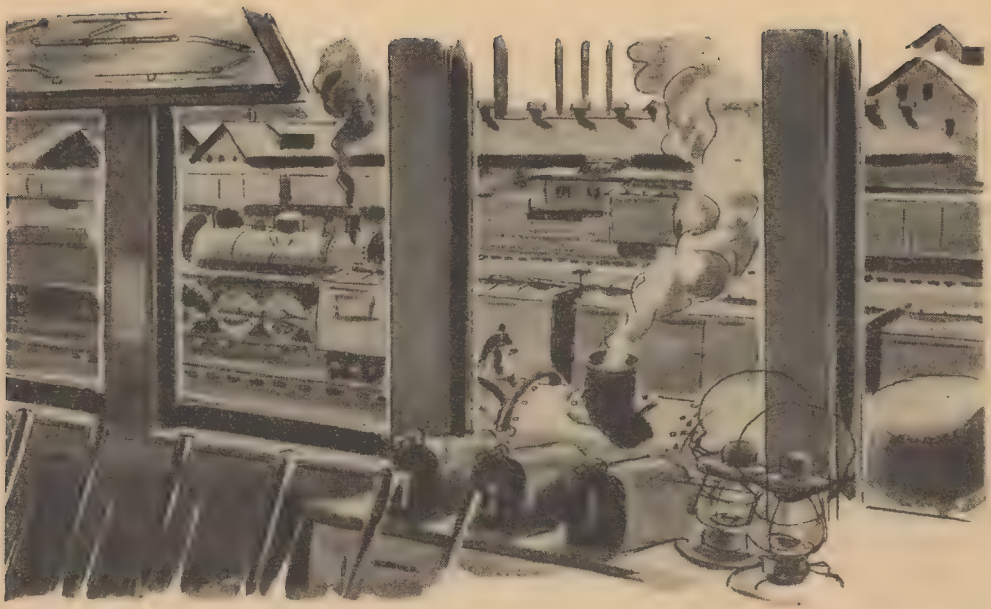
Forty-two Years a Towerman

WHEN I started out to hawk the wares of the Murphy News Company through the aisles of an Old Colony train out of Taunton, Mass., one summer day in 1889, I began what turned out to be a fifty-year career on the railroads. That is a longer time than I ever dreamed of when I was fifteen, surely, but not longer than I wanted. And if the great hurricane that whipped the Atlantic coast in 1938 hadn't interfered, I might still be handling the levers in a signal tower somewhere along the New Haven line.

That September day, when the winds tossed ships out of the sea and tidal waves washed shore-line roadbeds away, was an unexpected climax to my years of varied service on the NYNH&H. I was on duty at Stonington, where I'd first worked as towerman more than forty years before. But the hurricane was the end, not the beginning, for me on the New Haven.

I got my first experience in telegraphy as handyman for an agent at a little Boston & Albany depot—my first job as a railroad employe. Then in the early nineties, when I was still in my 'teens, I switched over to the New York Central to take a signal tower job on the Hudson River Division. Those first years I described in a previous article, "Fifty Years on the Rail" (*Railroad Magazine*, September 1942).

My career on the New Haven began when I heard they were paying fabulous wages to the men who operated their new block signal system. I lit out for southern New England in pursuit of $2.25 a day, which was a good sum then.



A Veteran of the New Haven's First Block Systems Tells His Story

My first assignment as a spare was the night trick at the Stonington Junction tower, where a branch left the main to connect with the steamboat docks. That job didn't last long, but I had time to be disillusioned about the big pay: maybe the oldtimers were getting it, but most of us received about $1.70 for a twelve-hour shift. When the regular man came back, I decided to go braking.

When I started in at Stonington Junction, I probably didn't realize that I was going to settle there and get to know every inch of roadbed in that territory. I was a young fellow, pretty serious about learning to railroad, and my first thought was to move around. For the next ten years I was in and out of half a dozen towers and depots, before I came back to Stonington as towerman.

It wasn't long before I decided not to ride the freights to a conductor's badge. My term as a brakeman ended as a good many others did in those days. But working the Niantic local out of Stonington was a good way to find out what the braking game was like.

We used to start work in the yards at seven, finishing the switching that the night crew left for us and making up two trains beside our own, before we headed for Niantic at nine. With the hardest kind of hustling, we were rarely back at the home terminal before four. It was only a ten-mile run, but I think there were more industrial sidings and spots on that stretch of track than any other one I ever saw of similar length.

Once back at Stonington, the crew split up, the conductor and two brakemen being relieved for several hours while the other shacks got busy with the dummy switcher, weighing cars and spotting them on the harbor docks until the night switchmen came on. The skipper and his crew returned to take a two-car passenger local to New London at seven, ahead of the westbound *Gilt Edge*. The brakemen alternated on this schedule, riding the passenger one day and switching freight cars the next.

But you know what used to happen every day in the link-and-pin era—I got mine after I'd been working about six

Photo from J. William Barnes, Southbridge, Mass.

THE JUNCTION yards, Stonington, Conn., as they looked in the nineties when I worked for the NYNH&H as freight brakeman

months. When I was tying on the engine to our train one winter night, I slipped on a patch of ice and fell against the bumper, with my hand between the drawheads still holding the coupling pin. For a good half a year I needed a one-arm job, though my hand eventually recovered.

I CAME back to the New Haven, sure that I wanted a towerman's spot, after putting in time as an agent at a little station up on the old New England Railroad. My new assignment was a good one—first trick at the seventy-six-lever tower at Reedville, south of Boston on the Providence Division.

The racing season at the Reedville track had just opened when I went there. That meant handling often a dozen or more special trains for the crowds who came to see such events as the race in which *Star Pointer,* a famous trotter, set a new world's record. It was a fine sporting occasion for the spectators, but a headache for the railroad. I worked like the devil trying to splice special trains into an already crowded schedule.

I left Reedville for Leetes Island, a tower point near Long Island Sound, not far from New Haven. My tower was in open country, and I got a real taste of what railroading could be in winter. I was a New England boy, familiar with the kind of weather we had along the coast. But we had a blizzard that stopped the trains and cooped me up in my tower for a day and two nights.

The weather forecasts had not prepared us for a heavy fall, but the looks of the sky that November night told me that we weren't in for just an ordinary snow. It had been coming down all day and I could see no signs of its stopping. Through the night the storm increased in fury, with fewer and fewer trains passing the tower. By morning the wires were dead, and the snow completely covered all indications of the right-of-way below me.

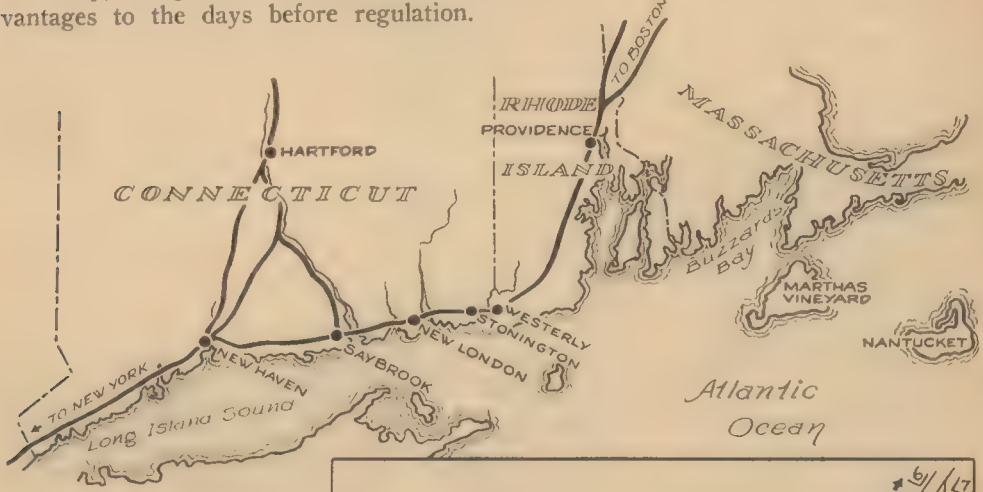
I was due for relief after my twelve-hour job, but the first trick man wouldn't be able to get to me, I was sure of that. Pacing around that little tower, gazing out over the miles of wavy drifts and unbroken whiteness grew more and more tiresome as the day wore on. I had no supply of food with me. By late afternoon the skies had begun to clear and I decided to strike out across country, for I was fairly sure I could reach a farmhouse not too far from the tracks.

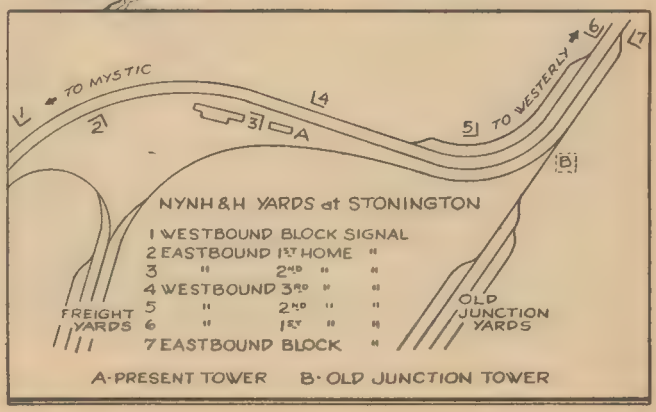
I could judge from the hidden fences how deep the drifts were; I knew it would be tough going if I had to climb through the heavy drifts, so I looked around the tower to see what I could possibly use for snowshoes. My glance struck an old canvas-covered extension case in one corner, which I immediately took apart. With slits in each piece and the leather straps for lashing the pieces to my feet, I had a clumsy but effective pair of snowshoes. Equipped with these, I tracked through the snow until I reached an hospitable farmhouse. I took away with me food enough to last for another day, but early the next morning the first trains began to come through after the plows, my relief man along with them.

A twelve-hour trick for every assignment was just one of the things that made railroading in the nineties hard work—the good old days weren't all apple pie. In a way, though, there were certain advantages to the days before regulation. As a young fellow, keenly interested in the road and anxious to get experience, I could move from job to job, pretty much as I pleased, without having to worry about being bumped, for there were no seniority rulings on the New Haven then.

We had some good railroading officials in those days, too—not the kind who is scornfully called a brass hat today. I worked under several of them, especially W. A. Waterbury, who was superintendent of the New London Division when I was working at the Waterford, Conn., tower.

I hadn't been long at Waterford before I had a tie-up on my hands that called for quick action and to hell with the rule book. It was early evening—I had just given the signal to a westbound freight to stop and pick up a car on the opposite





MAIN ROUTE of the New Haven road follows the southern New England Coast. RIGHT: layout of NYNH&H trackage at Stonington. Harbor is south of the freight yards, paralleling Shore Line eastward

side of the main line. The crew cut off, to cross over into the yard. But just then the rail spread and the engine jumped right over the interlocking derail, which was well free of the eastbound main.

It would take valuable minutes for the wrecker to get to us, plus more time for rerailing the engine as she lay. Meanwhile I would be completely tied up, with the dead train standing on the westbound track, nothing available to move it, my switch open to the yard—and several passenger trains due.

There was one way out of the jam, which I decided to risk, though I knew damn well it wasn't anywhere near the rules and regulations. The interlocking parts of the derail could be disconnected with a few simple tools, so with the canvas shield from the back of the engine cab thrown over me for protection, I crawled underneath the firebox to do the job.

In a few moments I was back in the tower, with the switch clear for the main stem. The trains got through without delay.

It was no secret then, as now, that no railroader was expected to stick to the rules all the time; if he did, a good many trains would never get over the road on schedule. Nevertheless, I was a little apprehensive when I got a message from Mr. Waterbury, asking me to stop in at his office the next time I was in New Haven, though I knew there was no question of being on the carpet—I'd have heard about that sooner.

The Super spoke his piece abruptly, when I finally got a chance to see him.

"Thomas," he said, "I want to thank you for the job you did at Waterford the other night. You broke just about all the rules in the book, but you moved the trains. After all the talk about rules, you know as well as I do that the good railroader is the man who knows when to break 'em and what to do afterwards."

That definition I've remembered for many years, and I look back on my jobs under that official with pleasure. The "Old Man" evidently liked me, for when

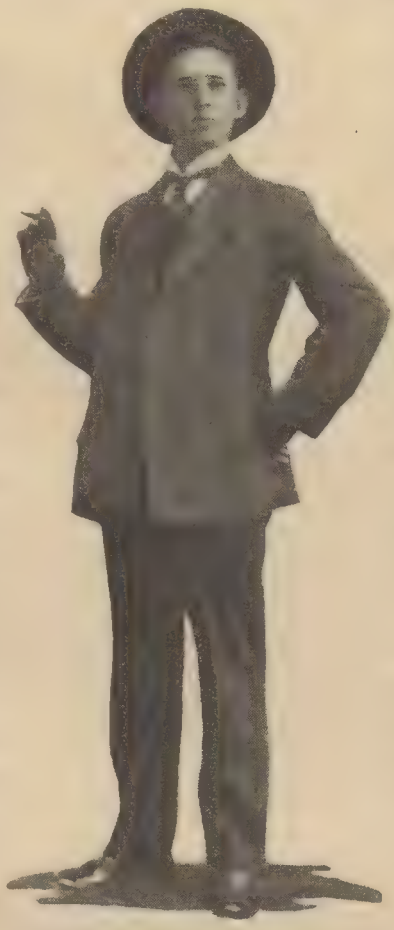
PRESENT-DAY TOWER at Stonington, where I took up my duties after the old tower at the Junction was replaced in 1914

he was shifted not long afterward to the new Air Line Division (New Haven to Willimantic), he requested that I come over to his territory, a move I soon made.

I WENT to work at Northford, a stop between New Haven and Middletown, in one of those intervals between tower jobs—if there wasn't always a spot for me, I would take an agent's job for awhile. Northford was a little place, but I remember it for a number of reasons that give me a laugh now.

I was quite a bicycle fan in the early 'hundreds. I had one of the latest models which had all the newest gadgets on it. Maybe a few oldtime cyclists will remember an attachment designed to make a bike into an easily pedaled railroad velocipede; well, of course I had one, which really came in handy one day.

I always had my bike at the depot with me—rode it over from the boardinghouse where I lived. One morning the DS called and wanted to know if I could get an order to a northbound freight that had just rumbled past my station. Maybe he thought I could ride the bike—anyway, that's just what I did. I tore down the track, peddling for all I was worth, with the tail end of the train barely in sight. We seemed to keep a fairly even pace, but I closed the gap slowly, and after about two miles, I got near enough to start shouting for the brakeman. The conductor happened to be in the crummy to hear me above the clatter of the wheels, so the freight got its orders. Those were the days before hopping 'em up was a regular practice—the DS figured to avoid delay by getting his instructions to the crew without having to stop the train. The bicycle came to an abrupt end one day, and I might have too, if the scene of its collapse hadn't been a lucky one. I was making thirty miles an hour over a big sand fill one Sunday, when the front wheel crumpled. I slid fifty feet down the embankment on my stomach. Some good Yankee cussing could have been heard by passers-by, but at the same time I couldn't help thinking, what if this were a rock fill?



THE AUTHOR as he looked in the early nineteen hundreds

I moved back to the block signal system after filling in at Northford. This time I was working the third trick at the Air Line Junction tower near New Haven. That area is occupied by the big Cedar Hill classification yards now, but forty years ago it was a hotspot, too, with Hartford Division trains coming through, New London and Air Line traffic and some New York-New Haven freights. That meant four dispatchers' wires to handle, with several message lines of my own.

The layout at the Junction wasn't big enough for the number of trains we had to handle or the amount of switching that had to be done. There were no lead tracks, and when one of the drags was too long to handle in the yard, I had to hold out everything but the fast trains, to let the switcher work out on one of the main lines. If I had to let a drag out of the north end of the yard, it went onto the Hartford main stem.

A yard like that kept dispatchers, yard crews, and signalmen tearing their hair a good deal of the time. The smallest slip-up could mean trouble for everybody. One time the Hartford dispatcher left me holding the bag on some train movements he failed to cover by orders, and it was only good luck, plus plenty of work on my part, that kept us out of trouble.

About two o'clock one morning the dispatcher called to say that he was running the mail train to me on track 2; I gave him the usual okay reply, supposing of course that he would put a 31 order down in a moment or two. When the mail showed up, I switched it to the proper track for the New Haven station. The railway express came in soon afterward and there was nothing for me to do but follow the same procedure. The same thing happened with Number 55. Still no orders from Hartford to cover these movements. All I could do was notify the yard office and everyone else concerned, so they'd know what was going on, at the same time changing other train movements to avoid any possible conflicts. I never did know what that Hartford man thought he was doing when he sent those trains in without orders.

I had started with the New Haven when it was in a period of rapid expansion. Some of the divisions I worked on had been independents when I was a kid, like the Old Colony, the Boston & Providence, and the Air Line Railroad. I felt like a boomer, even though I was working for one company the whole time.

IN 1905 I decided to settle down. I was thirty-two—old enough to join the home guard—and besides that, I planned to be married. I had met the future Mrs. Thomas when I was working on the Air Line route two years before. In the interval, I'd done some special jobs as inspector for my old boss, W. A. Waterbury, and office work for another fine railroader, C. C. Elwell, working as clerk in charge of delay matters on the new Shore Line Division. Seeing service all over the NYNH&H system had shown me not only the kind of job I preferred—that of towerman—but also the spot I wanted to live in. In June, 1905, I asked for, and got, the assignment as third trick towerman at Stonington, the place where I broke onto the New Haven as a spare man, back in 1894.

This little town is right on the coast, not far from the Connecticut-Rhode Island line. When I first went there as a regular, the busy spot was the Junction, some distance east of the passenger stop, where trains were switched to and from the steamboat docks. The tower was located at the intersection of the Junction yard lead with the main line. The old building there was used up until 1914, when traffic to the docks was no longer heavy. A new one was built, near the passenger station.

Railroading out of a seacoast town has some problems all its own; Stonington's location makes that especially true. Being right on the ocean, beyond the protection of Long Island Sound, it is exposed to winds from the open Atlantic. When these tidal currents strike the shore, the difference in the temperature of the water and of the land areas gives us heavy fog although it will be clear a few miles further inland.

These frequent fogs made the towerman's work more difficult, especially thirty-five or forty years ago when he had to rely much more than now on having a spread-eagle view of his territory. The lay of the land around the Stonington yards wasn't any help either.

The road to the east of my tower made a sharp curve northwards around a steep hill, so I could see the tracks in that direction only a few hundred yards. To the west, there was ordinarily an open view for a mile or more in clear weather, but mists so often hung over the area that the straightaway didn't make much difference. The grade into Westerly, R. I., beyond the hill, was a bad one for the little engines we had then. We had so many calls for pushers that an emergency engine was kept under steam much of the time in our yards.

Stonington in those days would have

been a good location for a trainmaster; as it was, I often had to act as one, though the scheme would never have worked without the hearty co-operation between train crews and yardmen. I had a megaphone, and an expensive, far-carrying whistle of a special sound, which enginemen learned to know well. Armed with these, I could help the trains make moves around the curves and in fog quickly and safely.

Communication lines weren't always foolproof or nearly as efficient as they are today. Heavy rainstorms or blizzards often knocked out parts of the line temporarily, causing delays and slowing down service in general. One day in the winter of 1905 or '06, a storm put both telephone and telegraph lines on the blink, so that I could not get in touch with either Mystic, next station west, or Westerly. I had to act as dispatcher, directing trains through my territory with only the information I got from train crews to keep me posted on the whereabouts of the trains.

I forwarded trains heading west on yellow caution cards, since the next two blocks, to Mystic, and from there to Midway, were fairly short and free of grades. Eastbound runs got caution cards if they were passengers, close-in orders if freights, but I had to be careful about plugging the line because of the grade outside of Westerly. If I let Number 17 through an hour late, I could guess that the next one would be about the same time behind schedule. Every time I forwarded a train, I'd stop it and find out from the engineer or conductor what trains he'd passed in the opposite direction. Depending on their reports, I could work out a move for the train due to follow. Nobody pretended that we were keeping to schedule, but there were certainly no unnecessary delays.

SOME YEARS LATER I was boss of the Stonington yard again, this time when ballast was being laid the length of our division. Traffic was expected to go through as usual, and while the work was

You feel right on the button, man—
Get quick shaves that look spick-and-span
When low-priced Thin Gillette's your blade—
For comfort, too, it's sure top-grade!
Outlast Ordinary Blades Two to One
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BLADES
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Produced By The Maker Of The Famous Gillette Blue Blade

WRECK of the *Adams Express* at intersection of main line

in progress east and west of Stonington, the man on duty at our tower was considered to be in the best position to handle the trains. So I put in about the busiest two or three weeks I ever spent anywhere.

The work trains, extra long with gondolas full of ballast material, had to be worked in between the regulars, with as little disruption of the schedule as we could manage. My system was to run a work train out on the main, and then call them in to take either the east or west wye, using my whistle or megaphone, in time to clear for through trains. I usually allowed them enough time to unload one car, in case the crew had begun on one. A brakeman would be posted away from the noise so that he could hear my whistle signals, or when possible, near enough to see my hand signal.

Laying that ballast cancelled railroading by the book for the duration of the job. Close teamwork was required to get it done as quickly as we did. The roadmaster remarked afterward that more was accomplished, on a mile per hour basis, at Stonington than on any other stretch of track on the division.

In spite of the hazards on my block, I can say that there was never a wreck in our yard while I was on duty. Of course, we had a few derailments but nothing serious, causing loss of life or property damage. The only time we had a bad smash-up at Stonington was the morning when Number 32, the *Adams Express* train, banged into a freight at the Junction, hitting the old tower. The third-trick man caught the official blame for the wreck, though he was afterwards rehired by the New Haven when the whole business was investigated.

The switch was open to the Junction yards so that the freight could back in and allow the *Express* to go through. The towerman set his eastbound distance signal to indicate this move, but the signal was evidently out of order; it showed a clear line as Number 32 roared around the curve at full speed. The *Express* piled in-

and Junction yard tracks, Stonington, 1913. Old tower at right

to the head end of the freight, which had not got completely into clear. Several were killed or injured and the towerman lost his job, though the real cause of the wreck was the poor condition of the signal wiring. Two or three times I had called the attention of the maintenance men to repairs needed in our block; they would do a little work on the wires and then let them slip back into poor shape again. It was true that conditions on the whole New Haven system were somewhat like that of the signal wiring at that time.

One of the duties a towerman, agent, or operator used to have more frequently than now was to assist in getting relief engines in readiness when and where they were needed. Thirty years ago, when one of our engineers saw that he was going to need a relief engine, he or his firemen threw out a written message, weighted as well as possible, at the nearest open communication office. But too often the messages blew away, or weren't noticed by the agent or operator. We had many irritating delays as a result of this hit-or-miss system, and it occurred to me one time that an engine whistle signal would be a better way of letting a station know that an engine was needed. I made this suggestion to M. D. Miller, Chief Dispatcher of the Providence Division at the time. The signal we devised was one long, one short, and repeat (—o—o), first appeared as a special rule in the operating timetables and then as Rule 14 t under Engine Whistle Signals in the NYNH&H book.

That signal wasn't necessary one time at Stonington, when I helped to make an engine change in what must have been close to record time. I had given the signal for Number 11, a westbound passenger express, now the *Bay State,* and noticed that she was longer than usual on my approach track circuits. With the wind being strong from the northeast, I could hear the engine exhaust plainly, though the train was a mile or more away. It was easy enough to tell that the engine was about all in.

Photo from J. William Barnes, Southbridge, Mass

THIS NEW HAVEN engine and tender took a header for the river just west of the Westerly, R. I., passenger station. Date, July 10, 1911

We usually had a relief unit standing on one of the wye tracks, but it happened that there wasn't one at this time, so I called Midway, seven miles to the west. The yard man there had an engine under steam, already headed in our direction on one of their outer yard tracks, and within ten minutes she pulled into Stonington.

The relief crew was ready almost before I was. I stopped the *Bay State* at the third home signal so that the crew could cut off and park the old girl on a siding. The Midway engine pulled up beside them, crews changed quickly, and Number 11 was on her way out of the station after no more than a six minutes' delay. I thought we'd earned the dispatcher's "damned good work" that came over the wire in answer to my report.

I remember one other incident in connection with the emergency engine usually stationed on the wye just behind my tower. One winter night the regular crew was ordered for some reason to take another train. A new crew was called, but until they arrived, I was left in charge of the old girl. It was the closest I ever got to engine service, or ever wanted as far as that goes—actual road work never appealed to me particularly. It was a bitterly cold night, spent by me in running from tower to engine and back again: forwarding trains, stoking the engine fire, keeping the heater in the tower going, working the injector to keep the water from freezing. I was glad to see the fireman when he finally showed up the next morning.

The New Haven had its ups and downs during the long period when I was at Stonington. Though I preferred my tower duty to any other job on the road, I had seen enough of railroading to be interested in all aspects of operation. As the records show, conditions all over the NH were in bad shape after rapid expansion, about the time of the First World War. For a number of years I'd been keeping a sort of private record of my own views on what was wrong with the road, based on conditions as I saw them from the ranks. When the management of the company was changed in 1913, I asked for, and got, an interview with the new president, Mr. Howard Elliott. It was unusual for a brass hat to grant such interview.

YEARS PASSED quickly; as I enjoyed my work at Stonington, and I found myself looking forward to completing close to fifty years of service on the New Haven. But events in the fall of 1938 that New Englanders are not likely to forget cut short my career and forced my retirement sooner than necessary.

September 21, 1938, was clear and warm like any other New England day in early fall, and there was nothing in the air that morning to suggest the kind of storm we were to have later. What occurred was the first real hurricane to hit that part of the country since the early 1800's.

A wind blew up before noon, and my son, who is deputy harbor master, and his mate were busy aboard his towing boat, trying to make craft at harbor moorings as safe as possible. When I went down to the tower to go on duty at 2 p.m., the gale was still severe and the barometer was falling, but none of us expected the storm to grow much worse.

About ten minutes later I gave the signals for a westbound freight extra—that was the last train in that direction to pass my tower. For the next hour, before communication lines failed, I got reports of trees blowing down over our tracks to the eastward, and I began to get some idea of what was happening beyond the curves.

Just before the telephone went dead the dispatcher notified me that a detoured Boston & Albany passenger train was coming in as a eastbound extra. I stopped it at the tower at 3:13. By this time the wind was blowing more wildly than I had ever before experienced—I learned afterwards that it had reached the eighty-mile clip—with trees and poles snapping like two-by-fours. I went down to the cab and warned the engineer of what he might expect ahead, provided he thought it safe to proceed at all. I authorized him to disregard my last signal, at the block a mile east of us, since that area was clear of trains. I found out later that this B&A

train reached Boston after great delay.

I couldn't walk back to the tower against that wind—I made it finally by crawling on my hands and knees. When I got up to grab the stairway railing, I was blown down, and just managed to hold to the edge of a stair. A gust of wind whipped my body around as if it had been a rag. That twist gave my back an injury from which I never fully recovered. No sooner was I inside the tower than the big chimney was ripped apart by the wind, and the path I had just followed was strewn with hundreds of bricks.

Power line failure was almost total, and we had to fall back on our 110- and 112-volt storage batteries. The gale showed no signs of decreasing, and buckets of rain were dashed against the tower windows.

What I might have feared, if there had been time for such thoughts, suddenly happened: the windows on the side of the building facing the wind were being blown in and those on the opposite side were smashed outward. A large pane of heavy glass crashed against the side of my head, knocking me down.

When I struggled to my feet again and looked out over the yard, the scene was appalling. The rising sea had begun to pile in over the land, coming into the harbor and adjacent bays and coves in solid masses of salt water. On the highly ballasted track in front of the tower, the water was over three feet deep. Wind clipped the tops of the waves to fill the air with salt spray as well as rain.

I was sure I'd see no more trains that day, and about four o'clock I was amazed to see Engineer Harry Easton burst into the tower. He found me trying to stop the flow of blood from the cuts on my head as I stood in a ruin of floating office supplies and broken glass.

Harry was engineer on Number 14, the *Bostonian,* with George Barton conductor. He had arrived at my first home signal, about six hundred feet away, which had indicated "slow—proceed" when I last saw it. Harry told me the signal was now red, and wanted permission to pass.

I gave him the authorization, but it was some time before he was able to proceed. The track had been settling on the fill, before the *Bostonian* had come to a stop apparently, for by the time Harry got back to his train, some of the cars were gradually slipping down the bank; boats of various sizes were being driven against the side of the train. The train crew herded passengers into the car nearest the head end and onto the engine itself. By shoving boats and wreckage out of their way, they got those two units of Number 14 down to my tower, where I directed them to the high ground near Elm Street crossing. The locomotive and car remained there for several days.

Four o'clock or thereabouts marked the height of the hurricane at Stonington. The wind reached a peak of one hundred and twenty miles per hour. Damage as a result of wind and water had been tremendous. In my vicinity alone, the New Haven had to rebuild over twenty-five miles of track; several bridges were com-

MODERN Shore Line trains

Photo from Railroad Photographic Club

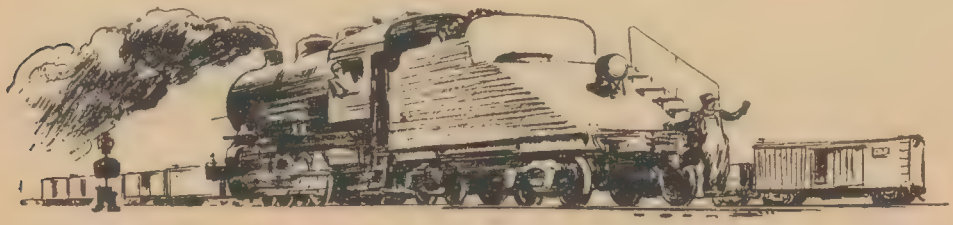
are hauled by new green-and-gold Hudson streamliners

pletely washed out, and over seven hundred poles had fallen on the line.

It was ten days before service could be restored, and the first train to arrive in Stonington after the hurricane was on the evening of October first. Two tracks were again in use a week later, and complete schedules before the end of the month.

As the New Haven Shore Line was gradually being put back into service, I was learning slowly that I'd come to the end of my career with the road. My hearing was badly impaired, and within two months after the day of the great storm, I felt obliged to retire, and apply for my pension, at the age of sixty-five.

Leaving the railroad in my fiftieth year of service seemed at first something of a relief, but I found, as many another old rail knows, that I couldn't stay away from the game. Instead of a job, it has become a hobby for me, and a new source of interest, particularly the history of roads in my native New England. Leisure time has given me an opportunity for preparing such articles as "Salt Spray on the Rails" for *Railroad Magazine* (August '43), as well as the story of my railroading career.



On *the* Spot

Railfaring Men Swap Experiences, Offer Ideas, and Settle Arguments

Action shot of a fireman at work, by Malcolm D. McCarter, Peru, Ind.

WHITE FLAGS FOR A WABASH EXTRA

LIKE William J. Parry, who has been writing for *Railroad Magazine* more than ten years, P. M. Adams is a Canadian National engineer. The author of "A Matter of Technique," in this issue, began railroading in 1913, but took time out for front-line service during the first World War. He lives at 588 Willard Avenue, Toronto, Canada.

Nearly two years ago Adams was set up running. He served seven months on the spare board, pulling passenger, freight, mixed, and whatever else the crew clerk pulled out of the hat. At present he is handling a rip-track goat in the West Toronto yard on the graveyard shift, but is looking forward to the time when he'll have "whiskers" enough to nose onto the main steam and stay there. Last summer a temporary slump set him back firing a passenger train between Toronto and Hamilton.

© Photo from Universal "Person-Oddity"

HAND-FIRING a miniature Mikado is part of the job of Fred Glaze, former D&RGW engineman, in operating a five-passenger-car train over his 600 feet of slim-gage track in Denver, Colo.

"This run," says Adams, "got any engine that happened to be available—often one that was just out of the repair shop and wanted a try-out before returning to her regular job. One night they gave us a semi-streamlined number capable of knocking off 100 miles an hour or better. Since our schedule was fast on that trip, and late departures frequently tightened it up even more, I'd judge our speed by the doorknob on the station at Burlington, Ontario. If I couldn't see the knob as we passed through, I knew the hogshead, Bill Austin, was really making time. Well, on that particular night I couldn't even spot the door.

" 'We must be doing 80,' " said Bill.

" 'Yeah?' I grinned. 'We're passing the mail plane, and that never does less than 144!' "

Returning the following morning, they were late leaving Hamilton. After they got over the hill Bill hooked her up and eased the throttle. The train practically flew. Hitting the downgrade at Clarkson, they went into a power dive headed straight for town. At Port Credit our author felt a jolt as Bill pulled her out of the dive and made a stop which carried them about halfway to the next station.

"Truck," said Bill. "The driver got clear."

This incident and its aftermath furnished Adams with the idea for his fiction story, "A Matter of Technique." The only other yarn he ever wrote for us was "Hundred Percent Haley" *(Sept. '39)*.

"One night," Adams recalls, "we were heading west with No. 19, a crack passenger bound for Chicago. Bill dropped a little time for steam—the fireman had fallen down, of course! At London the brass hats were curious about the ten-

Photo from C. W. Witbeck, Box 2501, West Jackson, Miss.

THE FORMER BR&P No. 87, Baldwin-built, is now owned by Henderson Lumber Co., Sanford, Ala.

minute delay. The conductor scratched his ear and asked:

" 'What are we telling them this time, Bill?'

"The engineer looked surprised. 'Now, Hank,' he said, 'you know damn well we lost ten minutes chasing that heifer off the track at milepost 87.' "

Bill is like that. His ready mind has been stalling off embarrassing inqueries for more than forty years, during which time he has never had to turn a fireman in. One day he was going east with red-card freight. His bakehead, as Bill remarked, had put coal on the fire upside down gumming up the works. A little way down the line Bill picked up a caustic message off a hoop. By the time he reached the terminal he had his answer, quoting a bit of verse that you may have read before:

The wind was high and the steam was low.
The train was heavy and hard to tow.
The coal was dirty and full of slate;
And that's the reason we came in late.

* * *

BUMMING rides on the Denver & Rio Grande, back in 1907, landed Nelson L. Pinnell in a prison enclosure but not quite behind the bars. Nelson was a boomer then. He's now a Southern Pacific locomotive inspector residing at 253 N. West St., Tracy, Calif. He grins when he recalls how close he came to serving a jail sentence that July afternoon long ago. He and his pal, Mark Creage, were beating their way through Colorado from Salida to Pueblo in search of jobs. An engine running light from Salida to Canon City took them part of the journey. Then they found they'd have to wait till 11:55 p.m. for a freight out of Canon City.

"As it was getting a little cold and the bulls would not let us sit in the depot without tickets," Nelson recalls, "we hunted up a boxcar to rest in until train time. We walked across the tracks in front of the station and found three boxes on a siding. The first one was nice and clean, with straw on the floor, so we en-

tered it and were soon sleeping peacefully. Suddenly we felt a bump. A yard goat had coupled onto the three cars and was dragging them. We were already going too fast to jump out, but we thought the car would be left somewhere in the yard and we could still walk back to the depot by 11:55."

But the engine paused at the east end of the garden, just long enough for a "snake" to throw the switch; then she started again. Next time the cars stopped Mark and Nelson found themselves inside the penitentiary at Canon City. As the boomers heard the switcher cut loose the other two cars and take them off a piece, they huddled in a corner hoping they wouldn't be discovered by a prison guard. They weren't. After about 15 minutes the locomotive returned and hauled the lone boxcar out of the jail yard. The boomers never bothered to ask why the car had been taken there in the first place.

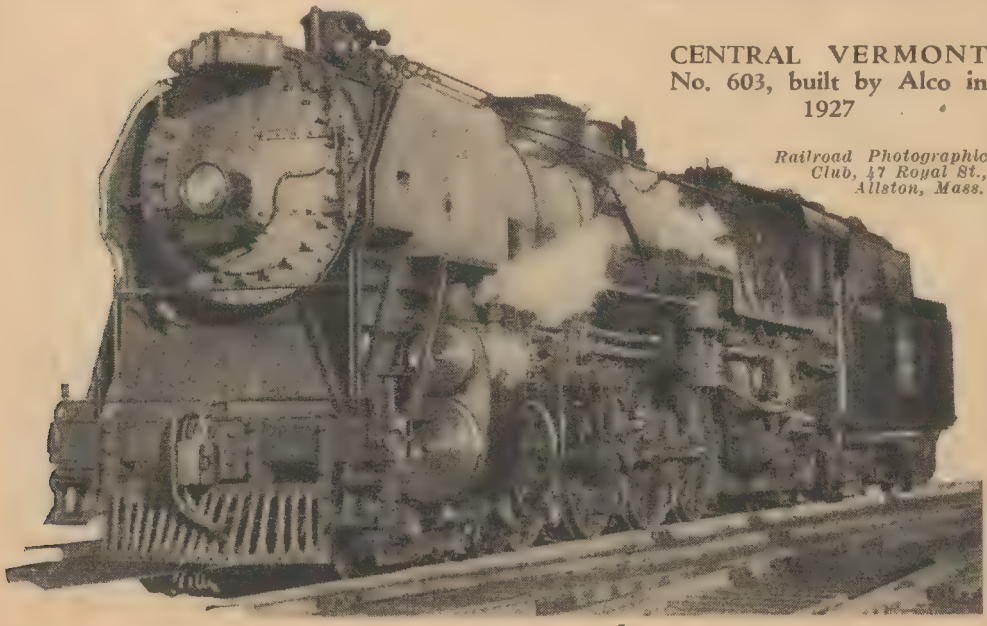
"Everything turned out all right," Nelson adds. "We were back in town to catch the freight; and when we got to Pueblo, Mark landed a job braking between there and Salida, while I hired out for roundhouse work. Last time I saw Mark—in September, 1915—he was a conductor on a run out of Grand Junction, Colo."

Nelson did quite a bit of booming before he settled down with the Espee. We hope he'll tell us more of his experiences.

* * *

OLD-TIME conductors who used to punch his commutation tickets were mentioned by Clarence J. Ayers *(May issue)*, with the words: "How many are still living I cannot say," One of those mentioned, Howard Lummis, writes us to say that, although retired from active service, he is still very much alive, resides with his son Raymond at 517 Magill Avenue, West Collingswood, N. J., and would be glad to hear from anyone who cares to write.

Mr. Lummis served the Reading and the Pennsylvania-Reading Seashore Lines for 47 years, a fine record. It all began in 1890. After working a year as a clerk for Riley & McManus, the contractors who were laying the Reading's second track between Camden and Atlantic City, N. J., young Howard went to work on the railroad as a brakeman and baggagemaster between Camden and Hammonton. Ten



CENTRAL VERMONT
No. 603, built by Alco in 1927

Railroad Photographic Club, 47 Royal St., Allston, Mass.

APRIL, the "Perfect Shipping Month," closed with a very low score in the Missouri Pacific yards at Dupo, Illinois, through no fault of railfaring men, as the Mississippi River crested 39.1 feet, its highest level since 1884

years later he became a conductor, and skippered many of the express and commuter trains to Atlantic City, Ocean City and Cape May.

He remembers "way back in the times when we had wooden coaches illuminated with oil lamps and headed by stoves which stood at the end of the cars. That was in the old link-and-pin days, when Johnson coupling bars were used. This rolling stock was later replaced by steel cars with automatic Gould couplers, which were much better to work with. These steel cars were the first to be heated with steam.

"One winter in the early 1900's," he recalls, "we encountered a blinding snowstorm on the southbound trip. By the time we reached Hammonton the crew had to get out and shovel snow from around the engine. Upon arriving hours late in Atlantic City, we found the tracks and station so frozen with ice that we were unable to leave on schedule the next day. As far as I can recall, there were only three or four times when Atlantic City had freezing weather like this."

Mr. Lummis experienced many washouts on trips to the shore resorts. These were caused by "northeasters" that still sometimes play hob with South Jersey.

"During one such gale, in the summer of 1921," he continues, "we ran a number of miles on submerged tracks. As we let the passengers off between 51st Street and Gardens station, many of the men would remove their shoes and socks, roll up their trousers, and wade home. I distinctly remember following their example when I got off.

"Another time it was fire that caused trouble. When we stopped at Haddon Heights one morning, on the northbound trip, I received word that Kaighn's Point station was on fire, and we were to proceed only to 2nd Street, Camden, and there discharge our passengers. The entire depot and all the ferry slips were destroyed. Hundreds of laborers worked day and night until it was rebuilt."

Lummis was quite proud in 1910 when

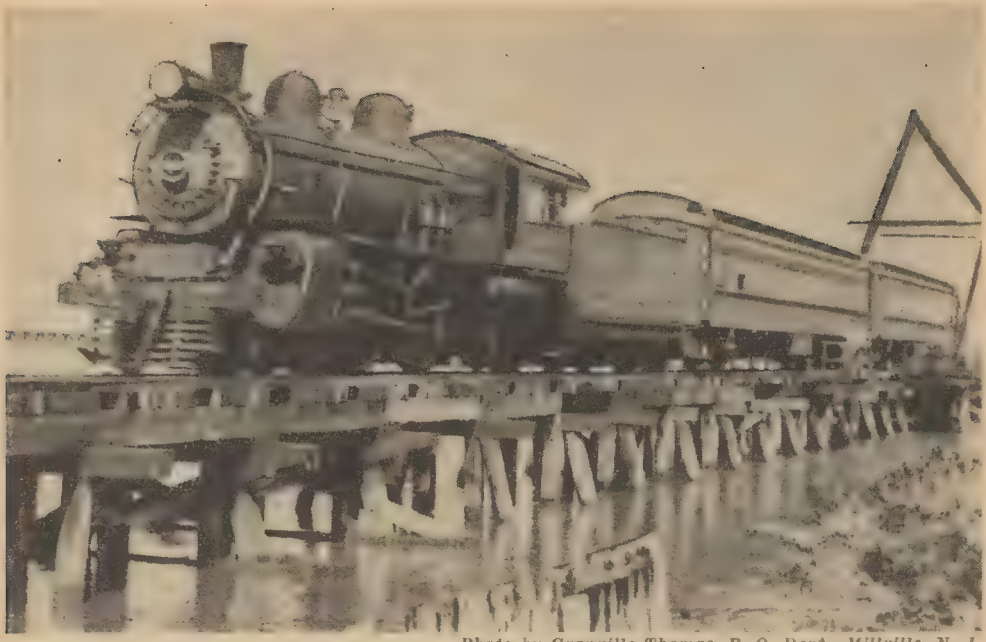


Photo by Granville Thomas, P. O. Dept., Millville, N. J.

HOWARD LUMMIS, retired conductor, Pennsy-Reading Seashore Lines, used to work on trains such as the one pictured here on a stretch of PRSL track between Ocean City and Sea Isle City, N. J., which was abandoned a short time ago

Raymond, one of his three sons, went to work firing a shifter at the Reading yards in Camden. Later Ray was on a run to Atlantic City. After that he was transferred to the B&O, and fired the *Royal Blue* from Philadelphia to New York.

In 1933, after the Pennsy and the Reading consolidated as the Pennsylvania-Reading Seashore Lines, the seniority of Mr. Lummis made him eligible to work

SANDBAGGING is one form of railroad flood-control. Scene at Terre Haute, Ind.

READING 2000-class engine climbs Nicetown Hill, Philadelphia

Photos by C. S. Freed and Leonard Y. Tripp

(BELOW) When a motor highway was blocked, an interurban line, the Buffalo, Lake Erie Traction Co., offered emergency service

out of Broad Street station, Philadelphia. He held this run for four years until he was "given the rocking-chair," which is railroadese for being retired.

* * *

OIL TRANSPORTATION pictures of the 1860s and '70s are being sought by Paul H. Giddens, curator of Drake Well Memorial Park, a state institution at Titusville, Pa. Mr. Giddens put the matter up to us after reading "900,000 Barrels a Day," by Freeman H. Hubbard, in the July '43 *Railroad Magazine*. Readers of this magazine are invited to visit the oil museum and library.

"We have all kinds of newspapers, maps, books, lamps, tools, relics, etc., relating to the early history of the petroleum industry," Mr. Giddens explains. "I don't know of any other place which has as large or fine a collection."

* * *

PROBABLY the only travel bureau in the Army is the one run by Corp. Robert Hoffman, Special Service Section, AAFTAC Air Base, Orlando, Fla.

Bob, a passenger agent from way back, handles coach and Pullman reservations for officers, enlisted men and their families to travel all over North America. He also offers Railway Express service to men stationed at the base. His Air Base Travel Bureau looks like the real thing, all right, with framed railpix on the walls and a professional-sized rack of timetables from pikes all over the country.

The model railroad club he is organizing may eventually be used to train soldiers in various phases of railroading—that is, if plans for the transportation school work out as he hopes. Bob asks fans to cooperate by donating model equipment, all kinds, for use of the men at the Orlando base.

* * *

FIFTEEN YEARS as big hook operator, pile driver engineer, mechanic, and with the bridges and buildings department of the Kansas City, Mexico & Oriente and on the Santa Fe have given G. R. Choate, Box 115, Margaret, Texas, plenty of opportunity to follow his hobby—taking pictures of fast locomotives, wrecks, bridge construction work, and bridge and buildings equipment. He wonders if any reader knows of a longer gas-electric run than that of Santa Fe No. 46, between San Angelo, Texas, and Wichita, Kansas.

* * *

OCTOBER 16th, 1901, is one date that a former railroadman now living at Graham, Texas, will never forget. On that day, at the age of 15, Thomas Givens had his first train ride and it impressed him so strongly that he lost little time going to work on the high iron. Since he was leaving his old home going to Almagorda, N. M., to reside with a married sister, Tom sold his only possession, a bicycle, to a party who lived 18 miles from Kileen, Texas. With three hours till train-time, he strode briskly toward town—and heard the departing whistle when he still had two miles to go.

"Well, I just sat down by the road and cried," Tom recalls, "vowing that when I

became a conductor I'd treat folks more respectfully. But there was another train in a couple of hours. When I boarded it I sure felt pleased at the new adventure, but afraid of pickpockets, which I'd been told abounded on trains. We reached Fort Worth at 8 a. m. and the next Texas & Pacific train for El Paso wasn't till 10 p.m. I stayed right in the station all day, taking no chance on getting lost.

"Next night I reached El Paso. More trouble! They were locking up the depot, and I didn't know where to stay till the

HEAVY-FREIGHT-HAULER, B&O No. 6183, at New Castle, Pa., photographed by the late Harry M. Schodde

morning train for Almagorda. I strolled around town looking for a room, altogether ignorant of how to go about it. A stranger asked me what a kid my age was doing on the streets that late. When I told him my plight, he said:

" 'Come with me. 'I'll find you a room.'

"As we walked he warned me to be careful, saying there were people in El Paso who'd cut my throat for a dime. My tongue froze to the roof of my mouth from fear that he might be one of those people; but he found me a nice room all right and left, after asking the landlord to get me up early in the morning."

At Almagorda Tom's sister told him to go out to a logging camp at Cloudcroft, 25 miles away. She said her husband was working there and he'd find the lad a job. Not having enough money for a ticket, the boy asked the engineer for a ride in the cab.

"Nothing doing," he said. "You ain't hefty enough to pass coal to the fireman."

But the boy looked so disappointed that the hogger told him to climb aboard. Tom paid his way many times over by helping to keep up steam on the puffing old Shay. The mountains there are steep. Tom could look back and see three tracks he had just passed over, but that back-breaking trip made the railroad fever burn more deeply in him.

At the logging camp he was put to work helping the hostler nurse the company's three Shay engines. Each night he had to clean out the fireboxes, flues and ash pans. Then he would load the engines with cordwood and coal, and have steam up by early morning. It was quite a job for a young 95-pounder, but Tom did it.

He failed only once, and that was because he and the hostler went to sleep one night. When an engineer showed up to take one of the teakettles, she had practically no steam up. The engineman cursed a bit. He advised the hostlers to set their watches back a couple of hours so they could have the steam up by 5 a.m.; and he adjusted his own timepiece to play along with them. Then he went to the foreman and told him all the watches had

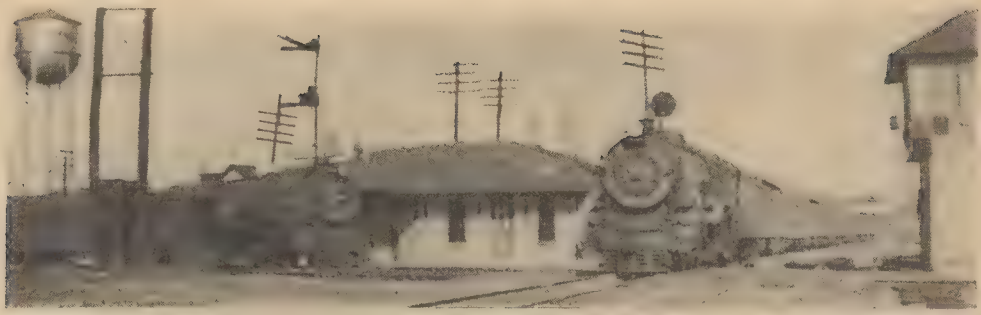


Photo by W. J. B. Gwinn, 650 Main St., Bridgeport, Ohio

PENNSY MEET. A Cleveland-Columbus train with engine 5464 waits at the Orrville, Ohio, station for a Pittsburgh-Chicago train, engine 3837, which you see pulling in at the right

stopped, and that alibi saved my job.

On another occasion Tom had to hold a light inside the boiler while a boiler-maker caulked the crown sheet and flues. The engine still had 120 pounds of steam, and every once in a while the boy would get a hot drop of water down his neck. Of course, he'd jump, whereupon the light would go out. The other man would hit his hands instead of the caulking tool, and swear a blue streak.

Some time later, Tom was crawling out from under an engine after cleaning her ash pit, when the loco got a notion to take a walk. The lad barely got his legs in the clear and jumped for the cab. He grabbed the throttle, shoving it as hard as he could, but the engine kept going. Not knowing what else to do, he snatched the reverse lever and shot her back down the hill. Unable to put her in neutral, he just kept the Shay going back and forth until the hostler came to his rescue.

"After that," Tom said, "I never again crawled under an engine until she was in neutral and blocked with 2¾-inch nuts

Photo by Vernon Seaver, 1103 Bryn Mawr, Chicago

YOU CAN BET the dining-car kitchen is well stocked with baked potatoes, for this is the *North Coast Limited*, on the "Big Potato Route" (Northern Pacific) at Butte, Montana

Photo by A. R. Johnson, 1217 Omaha St., Eau Claire, Wis

YOU SAW THE MISSISSIPPI pictured at its worst on pages 15 and 120. Now behold the "Father of Waters" flowing peacefully beside the tracks of the Milwaukee Road at River Junction, Minnesota

jammed up securely against the wheels.

"Before long I left the logging camp and went to work in the T&P shops at El Paso. I had charge of the tool room, with the additional duty of seeing that all outgoing engines had lubricating oil and coal oil for headlights. One time the day man got careless and dumped a barrel of gasoline into the coal oil. Until we found out what was the matter, headlights were blowing out, and the old wick torches that the machinists and boilermakers used were blowing their wicks out across the shop. Several wicks landed on people, setting them afire. One poor fellow ran in circles, flames fanning out behind. Five men had to chase him.

"One night, while I was taking shuteye, someone tossed sand in my face. It went in my eyes, mouth and nose. The watchman told me who did it. Next night I found the practical joker, a big blonde Swede, sleeping peacefully on the running board of an engine, and I poured a bucket of lubricating oil on his head. By the time that fellow could see his way around, I was far away. It took his two weeks to get the sticky stuff out of his hair."

Tom remembers eight strikes which occurred in six months at those yards, all short-lived, but rather tense while they lasted. One started when the men wanted the price of beer in local saloons reduced from ten cents to five. Another arose out of a pay-train robbery. A bulletin nailed on the roundhouse wall announced that the pay would be delayed. Someone blew an engine whistle, got the boys together, and persuaded them not to work till they got their money. All hands sauntered over to the park and prepared to kill several kegs of beer, when the officials frantically got money from a local bank and paid them.

Our correspondent was always ready to take part in fun. For instance, when a young hill-billy came to work at the shops, Tom and the other fellows told the newcomer that a certain callboy was the Superintendent. When the country lad went around to the callboy for instructions, he was told that last thing every night he was supposed to wind the "armstrong" turntable eight times, like a clock. It generally took four husky men to turn it. However, this mountain youth managed to get it around four times, then decided it was too hard.

"Ah cain't turn that dang thing no more than four times; ain't that enuff?" he pleaded with the callboy.

"It's gotta be turned eight times or it's no good," the fresh kid told him. So the yokel went back and shoved the turntable around four more times.

After several years on the railroad, Tom finally settled down in his own machine shop. He now has two sons serving Uncle Sam.

"I'd like to hear from any of the boys who remember that big Shay engine we had—biggest in the world at the time," he writes. "Every time they tried to make her take a curve the middle drivers would jump the tracks. They had to put 12-inch flanges on her."

* * *

CENSORSHIP keeps Gunner Lawrence Brown, 445th Field Battery, 65th Field Regt., Royal (British) Artillery, from telling where he is stationed, but Larry is permitted to discuss his impressions of railroads in various countries of the Near East which he has visited.

A year or so back he was hospitalized at Qassassin, a one-horse town on the Ismailia-Cairo mainline of the Egyptian State Railways. Here he got a slight idea of the part American locomotive builders are playing in the war, when he saw a 2-8-2 which had been built by Lima in April '42. Aside from that, Larry got the idea that the iron pike in Egypt was 10 or 20 years behind the times. The most modern power in evidence was an Atlantic type, which happened to be painted green, like members of the same family on the Southern Railway in Britain—not to mention the green locomotives on America's Southern Railway. He also saw some Atlantics rebuilt as 4-6-0's.

Before long Lawrence was sent to another hospital in Palestine where he got

a chance to watch both the Palestine and the Hedjaz railways at work. In the country he saw both American and English 4-6-0s hauling passenger trains on standard-gage rails, the American gals having been built by Baldwin probably around 1900. The Baldwins were typically American machines, with low frames, Walschaert valve gear, outside cylinders, two domes, tapered boilers, eight-wheeled trucks and double-window cabs. Some had been converted into 4-6-4T types hauling local passengers. Much of the yard work, Larry reports, is done by 0-6-0T goats of British manufacture. A modern note is introduced in the Holy Land by oil-burning American 2-8-2s and British 2-8-0's of the LNER type, both imported especially for Allied war needs.

Larry continues: "The Hedjaz line connects Haifa, Palestine, with Damascus—once-famed steel center of the world. From Damascus the tracks reach out to Mecca, holy city of the Arabs—but this branch is now in disuse. This road was built by the Turkish Government before the first World War."

Later our correspondent was with the Yanks and Tommies who chased Rommel's veterans out of Africa. When they occupied Bengasi he noted that most of the sidings had been rendered useless by terrific Allied air pounding. What few sidings there were presented an outlandish appearance, with rolling stock of every description set out end to end. This lack of facilities for switching brought about many amusing train formations with rolling stock of every description in one motley string.

"One train," he writes, doubtless with a chuckle, "consisted of an oil-burner, an 0-6-0 side-tank engine, three baggage cars, three flats, then a Diesel locomotive followed by three coaches! All in all, a railman's nightmare—but it comes under the head of railroading for victory."

* * *

DESERTED. The best article we ever published, according to Pvt. John Harper, was "Rails Rust in the Catskills," by H. H. Gross *(Sept. '43)*. John cherishes happy memories of the 38-mile Delaware & Northern which used to run between East Branch and Arkville, N. Y. During his boyhood vacations at Perch Lake he would hike down to watch the "Red Heifer" rumble along the portion of track which had not then been abandoned. This, of course, was the gas-electric car, officially styled M-10 but popularly called the Red Heifer because of its

Photo by William Garnet Reeds, Reaboro, Ont., Canada

AN IMPRESSIVE and well-balanced snapshot is this one of Canadian Pacific engine 487, a ten-wheeler, at Lindsay, Ontario

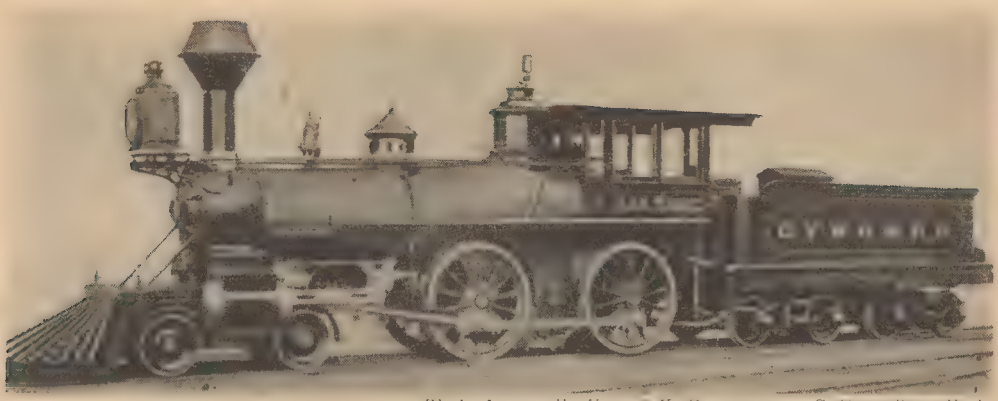


Photo from collection of K. Gus Swarey, Suttons Bay, Mich

REMINISCENT of days when it was customary, rather than the exception, for roads to name their engines, is this view of the *Van Wert*, No. 3 on the Cincinnati, Van Wert & Michigan (later Cincinnati Northern, now New York Central system)

crimson color and because of cows which roamed the low rolling hills thereabouts.

Once John and a fellow railfan invaded the old unused station at Union Grove and lugged away armfuls of treasure in the form of old train orders, tickets, waybills and telegraph messages. Last August he made a pilgrimage to Margaretville to tear down the station sign which bore such once-vital information as the mileage between the road's terminals, Arkville and East Branch.

At Margaretville he saw sagging old passenger cars with LIRR inscribed on their trucks, and an ancient caboose which had once belonged to the Duluth & Iron Range, and the rusting maintenance-of-way cars, all on a quiet siding. Switches, rails and track fittings lay in piles, while a truck belonging to Hyman-Michaels, the wrecking firm, stood by, probably in readiness to finish tearing up the two miles of line which still remained intact between Margaretville and Arkville.

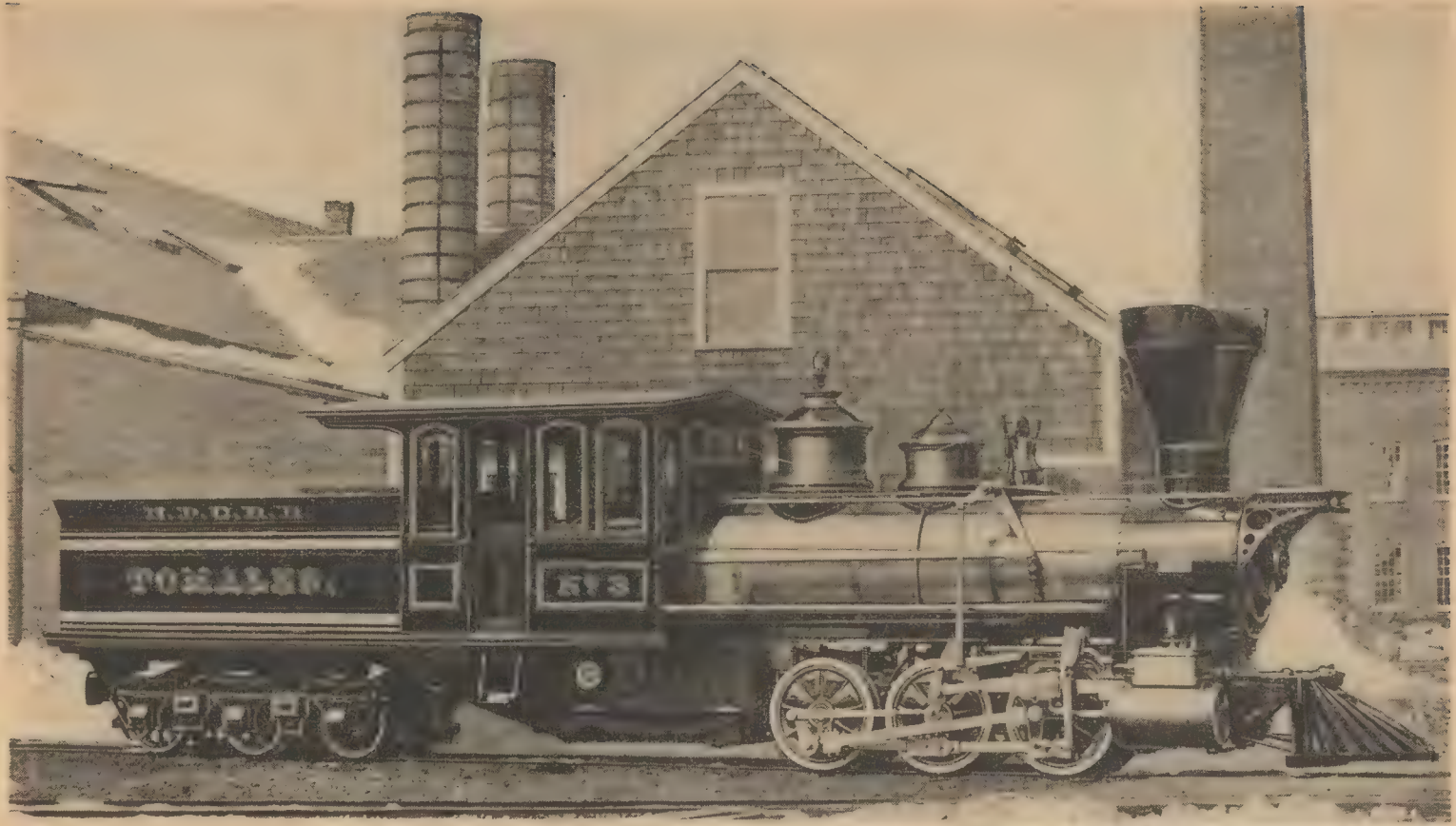
In his letter, bearing the heading "10th Y.S.S., Lowry Field, Denver, Colo.," John recalls that the Andes station, which had felt the effects of abandonment years before the main line, is now used by a feed and building-supply business. It might have become the terminal for two railroads if the graded D&N roadbed from Andes to Delhi, N. Y., had been completed. But it never was. Now only ghost trains roll along the weed-covered former right-of-way. The melodious whistle of the pokey little tri-weekly way freight no longer awakens youthful campers from their slumbers on the shore of Perch Lake.

* * *

NARROW-GAGE inspection engine pictured in December '43, page 135, has at last been identified. O. B. Flint, 312 Merrimac St., Newburyport, Mass., says he knew her when she was hauling passengers in Massachusetts, while E. V. Griffin, 11 Mellor Ave., Worcester, Mass., remembered seeing her rusting on a rip track of the old Halifax & South Western (now Canadian National). Both Flint and Griffin are now live-steam model fans.

Putting their data together, we learn that "Little Rhody," as she was nicknamed, had a glorious beginning, carrying brass hats on inspection tours of the Boston & Providence. Eventually she was bought by E. P. Shaw, who used her to carry passengers in one open car between Salisbury Beach and Haverhill, Mass., on the Merrimac River, to connect with the line of steamers he ran between Haverhill and Black Rocks. After Shaw abandoned his boats he turned to electric lines. He was promiment in affairs of the Haverhill, Merrimac & Amesbury and of the Newburyport & Amesbury.

"Then," Mr. Flint recalls, "Shaw elec-



Print made from glass plate owned by Thomas T. Taber, president, Railroadians of America

A CHOICE COLLECTOR'S ITEM is this view of the ***Tomales*** standing beside the Mason Machine Works at Taunton, Mass., where she was built. The North Pacific Coast narrow-gage, to which she was sold and which supplied a headlight for her, is now a standard-gage part of the Northwestern Pacific

trified the old steam line between Haverhill and the beach. He left Little Rhody gathering rust for several years at Black Rocks. Then, I believe it was early in 1912, she was reconditioned by my father and a Mr. Sanborn, and was brought to Newburyport, loaded on a flatcar and sent up to Nova Scotia."

* * *

LOCOMOTIVES are often called "she," but why are they so seldom named for women? The question was referred to three prominent railfans, all of whom are well grounded in railroad lore: Charles B. Chaney, of the Railway & Locomotive Historical Society; Walter A. Lucas, of the Railroadians of America, and Grahame Hardy, well-known collector and dealer in railroadiana.

All three agree that, for one thing, ladies have very seldom sponsored projects such as railroads. For another reason, believe it or not, sentiment does not play as great a role in choosing the name for a locomotive as it does in naming, say, a ship. The reason for this is that, practically since the earliest days of railroading, locomotives have been ordered from builders' catalogs, and the company which ordered them had little to say about designing the engine.

"Ships, on the other hand," Mr. Hardy points out, "were, until quite recently, built on a share basis, with the sailmaker, the lumber man, and the fellow who supplied nails, etc., holding a bull session to decide how the ship would be built. Frequently, the man who invested the most in the project had the say about the name the boat would sail under; and there was no reason why he wouldn't have it called in honor of his wife, daughter, or great-aunt Matilda.

"Then there is always a ceremony when a ship slides down the ways, with a woman smashing a bottle of champagne on the prow as she backs down toward the water. Locomotives, on the other hand, seldom come in for attention from the fair sex. Ladies can admire the trim, graceful lines of a sailing vessel, but they have never been able to see much difference between a 4-4-0 and a 4-6-0, since, in the early days at least, both belched smoke in the air and threw off red sparks to endanger milady's new parasol."

Of course, there have been quite a number of locomotives named for ladies. Mr. Lucas lists as examples the B&O *Lady Baltimore* and the *Ida, Eve, Ella, May, Jennie, Grace* and *Edith,* all switching engines on the Morris & Essex division of the Lackawanna; also the *Evangeline, Juno, Bernice, Dorothy* and *Pocahontas* of the Lehigh Valley.

Engines with feminine names which Mr. Chaney recalls offhand make quite an impressive list:

Boston & Lowell *Factory Girl,* 4-4-0 (1850); B&M *Lily Pons* 4-8-2 (1937); Camden & Amboy *Mary Ann Howell;* CPR *Countess of Dufferin,* 4-4-0 (1872); the *Diana,* a 2-8-0 built by Grant Locomotive Works in 1881 for a narrow-gage road; GTR *Lady Elgin,* 4-4-0, and *Empress, Princess* and *Duchess,* 4-4-0's numbered 728-30, built in 1888.

Also L&N No. 29, *Southern Belle,* 4-4-0 (1871); Pennsy 115, *Belle,* 4-4-0 (Baldwin 1854); *Flirt,* 4-4-0 *(Baldwin* 1855); 7104, *Isabel,* the engine used around 1912 by the General Manager of the Pennsy's western lines—fitted with a panel bearing his wife's name, "Isabel," whenever he used the engine.

And on the P&R: No. 39, *Pocahontas,* 0-8-0 (Baldwin 1846); 87, *Sonora* (1863); 91, *Celeste,* 4-4-0 (Winans); 188, *Minerva,* 0-6-0 (Reading shops, 1869); *Winona,* 4-4-0 (Reading shops, 1870).

In addition, H. K. Porter & Co. built small shifters named *Amy, Sue,* etc., and plantation engines often called *Baby.*

Photo from collection of Clayton Stevenson (pensioned Lehigh Valley engineer), 302 Olive St., Sayre, Pa.

THE *THOMAS DESMOND*, an eight-wheeler on the old Pennsylvania & New York (now Lehigh Valley)

Mr. Chaney adds: "Back in the 1850s, when the Boston, Lowell & Nassau had its *Factory Girl*, it had another 4-4-0 Hinkley called *Sailor Boy*. The story goes that these two engines were never allowed in the same roundhouse without benefit of clergy."

Extremely few locomotives have carried Biblical names. Giving a new engine the name of a financial backer of the railroad, or the name of a town or section of the country that was going to help support it, was a practice that "paid off," as Mr. Chaney says.

When engines did get Biblical names, they were generally ones like *Goliath* or *Samson*, which were used more to denote strength than to impart religious feelings.

* * *

STANDARDIZATION of steam locomotives to about a dozen types is advocated by H. W. Stowell, Box 105, Albuquerque, N. M., who claims that there is much waste in the present system under which we have about 500 different classes, with no parts interchangeable. Such a move, Stowell believes, would bring enormous savings in cost of manufacturing and in reducing necessary stocks of parts.

"Some efforts along this line were made under the brief U. S. Railroad Administration at the time of the first World War, when a simple type of freight engine with four coupled drivers, cradle-type two-wheel trailer, pony truck, and Walschaert valve gear appeared as standard equipment.

"Other efforts, carried on by the Association of American Railroads and the old Master Mechanics' Association, resulted in standard forms for front crank pins, standard proportion of rods, standard tires, standard formulas for counterbalancing, etc. But we can reap the full benefit of any standardization program only by carrying it out fully."

To those who say that adoption of standards would limit progress and discourage further experiment, Stowell replies that such a tendency could be more than overcome by earmarking a portion of the sav-

ings which would be effected for an elaborate research program toward improving the standard designs. Part of the money could be spent on a better valve motion.

"With the possible exception of some of the complicated valve gears, there is no perfect valve motion which will give equal cutoffs and port openings in various reverse lever positions. It seems likely a model could be invented which would give quick opening and closing of the valve, and not be subject to the various irregularities caused by the angularity of parts, slip of link block, etc. The Walschaert gear has been in use 100 years—and there is no reason why the whole valve gear problems could not be approached again from a new angle, and steam distribution improved without resorting to weird mechanisms like some of the European poppet valves."

Mr. Stowell says that a good practice we could start right away would be attaching any improved appliances and ideas to all engines as they pass through the shops for periodic repairs.

"For example," he goes on, "there is the proved value of cross balancing in reducing track stresses and preventing 'nosing' and rough riding. We have the means to balance all main wheels dynamically, even without the expense of new wheel centers. The cross balance could be accomplished by adding a small pocket 90 degrees from the crank pin on the side toward the opposite side—or by melting out a definite amount of lead from the corner of the counter balance farthest from the opposite pin. Of course, calculations would have to be varied to suit individual engines, but just the savings in kinked rails which occur under excessive speeds would justify the job."

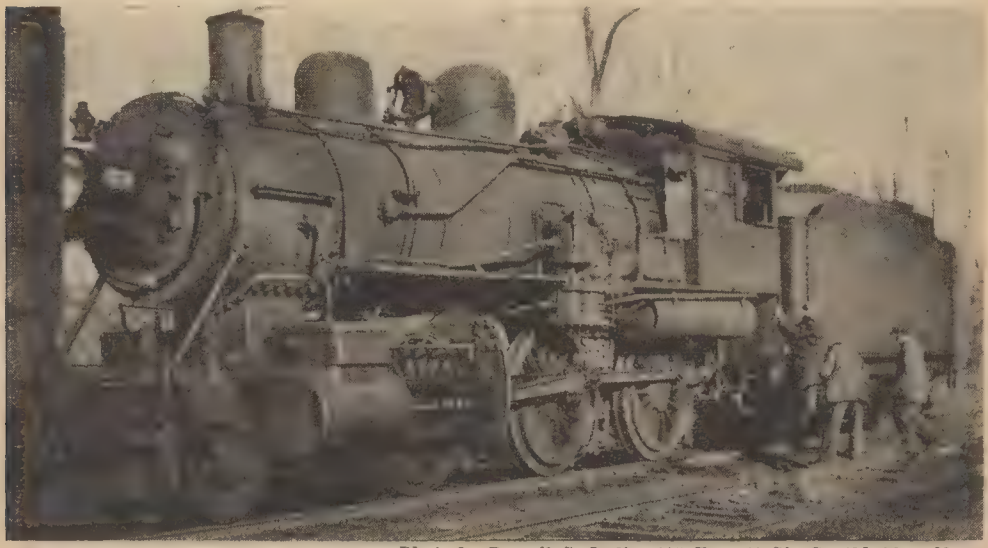


Photo by Russell C. Joslin, 147 Everett St., Southbridge, Mass.

VETERAN MOGUL, New Haven No. 335, Class K-1b, built in 1907, has 63-inch drivers and 20x28-inch cylinders

Our correspondent believes the railroads also should investigate the possibility of chromium-spraying boiler seams, the bottoms of coal cars, and other parts subject to the action of wet coal dust. He points out that "nitriding," a process of case hardening, might be used to extend the life of links, valve motion pins, spring rigging pins, and all other parts now case hardened.

As examples of steps the carriers are taking to keep up with the times, we have magnetic inspection of steel parts for cracks—"a new process which may still be improved," and the use of machines

Photo by J. William Barnes, Southbridge, Mass.

HOW MANY readers are familiar with this type of equipment? New Haven steam coach No. 1098, built by Schenectady Locomotive Works in 1897

which can saw out valve motion rods, side rods, and other parts which now have to be laboriously forged and milled.

One railroad even uses flame torches to cut out the back ends of main rods. Another refuses to permit oxyacetylene cutting on rods and motion work.

"These," concludes Mr. Stowell, "are typical of the problems facing solution."

FINALLY, we come to the results of our monthly "straw vote." As you know, readers indicate which stories, articles, departments and photos they like best. Some clip the Reader's Choice coupon *(page 145)* others write their choice on cards or letters. Here is the June popularity list, lined up according to number of votes received:

1. True Tales of Rails
2. Salt Lake, *Mann*
3. Big Engines, *Johns*
4. Electric Lines
5. Railroad Jim, *Daugherty*
6. Light of the Lantern
7. On the Spot
8. Locomotive of Month
9. Railroad Camera Club
10. Along the Iron Pike
11. Reading Locomotives
12. Engine Messenger

BEST photo in June issue, according to reader votes, was that of Canadian Pacific's *Dominion* at Kicking Horse River, page 84, with runners-up on pages 128, 72 and 113.

Photo from H. G. Monroe, c/o Atlanta, Ga., Journal

OLD ETV&G freight depot in Atlanta, from which John Cheaves got the orders for his last run, as told in true tale on page 76

NEXT MONTH: "Geared for Tonnage," the story of the bulk-commodities'-hauling Norfolk & Western Railway of today and yesterday, with many pictures—by Henry B. Comstock

Railroad Camera Club

ITEMS in this section are published free, in good faith, but without guarantee. Write plainly on a separate sheet or card containing name and address. Do not bury your *Switch List* entry in a letter dealing with other subjects. Include all essential details briefly.

Redball handling is given to each item we get the first six days of each month, if accompanied by a Reader's Choice Coupon (clipped from page 145 or home-made).

Use the usual abreviations and photo sizes.

(R) indicates desire to buy, sell or swap back issues of *Railroad Magazine.* (Specify condition of all magazines.)

(*) indicates juicefan appeal.

When writing to anyone listed here, enclose a stamped env. for reply. If you do not get an answer, it may be because the man was called for military service.

RAILROAD CAMERA CLUB is open to all who collect railroad or streetcar pictures or other railroadiana such as timetables, passes, train orders, trolley transfers, magazines, books, etc. There are no fees, no dues.

Membership card and pin are given free to anyone sending us the latest Reader's Choice coupon and a self-addressed stamped envelope. If you don't want to clip page 145 make your own coupon. Address *Railroad Magazine*, 205 E. 42nd Street, New York City 17. Tell us what you want or what you offer; otherwise your name will not be printed here.

JIMMIE ADAMS, 3525 Milton Ave., Dallas 5, Tex., will sell or trade southwestern steam or juice pix; wants rosters. Send pix or 5c for list and sample.

(R) ERNEST ANDERSON, 1008 Boulevard, Westfield, N. J., wants Apr. 43 *Railroad Magazine*, Nov. 41 *Trains*. Will trade bus tts. for trolley and rr. tts., tkts. Trades trfs. tkts., tts. of trolley and rr. lines. Offers 20 N.Y. area tts. for 25c war stamp or Canadian postage stamps.

RAY ASPLIN, 2837 N. W. 11th St., Oklahoma City, Okla., offers size 116 pix of AT&SF 1901, 1955, 3507, 3452, 4058; FW&D 264; SP 93, 268, 841; T&P 417, 493, 908. 10c ea., 12 for $1. Also rosters of GB&W, T&T, C&WC, G&F, CR&SJ, L&AL&H, D&M, 25c ea.

D. F. BAKER, C.B.N., USCG Base, Wilmington, Calif., wants 116 or p.c. size pix of rotary snow plows (side and end views); also pix of T&P caboose (side and end). Write first.

R. H. BARTH, Box 572, Mt. Savage, Md., wants any size pix of n.g. locos of following roads: Silver City, Deming & Pacific; Toledo, Delphos & Burlington; Bradford, Eldred & Cuba; C. H. Mason & Co.; Allegheny Central *(S. C. Dorsey)*; Lancaster, Oxford & Southern No. 4; Clarksburg & Western; East & West RR of Alabama *(John Postell)*; has C&P, WM and B&O pix to trade or sell.

(R) ED BEEMAN, 208 Mill St., Clio, Mich., will trade 140 *Railroad Magazines*, Dec. '29-Jan. '44, for 0-gage model eqpmt. Send lists.

(*) BENNIE BENNETT, 200 S. Peach Ave., Tyler, Tex., wants pix of Ft. Worth, Waco, Corsicana, Texarkana, Shreveport trolleys and interurbans. Pays well for pix of aband. Marshall & East Texas Ry. Southwestern fans write.

(R) WM. BIESECKER, 84 Commonwealth Ave., Merrick, L.I. N.Y., will sell unclipped *Railroad Magazines*, Jan.-July, Sept.-Dec. '43; all 1942; Feb.-Dec. '41. Best offer over $6. takes lot, or trade for min-i-scale pass. car kit.

WM. BISSINGER, 39-33 56th St., Woodside, L.I., N.Y., will sell 10 inspection loco pix, size 5x7 for $1.50. U.S. roads. Lists of 25 sent upon request.

JAMES BLANCHARD, 38 Locust St., Danvers, Mass., will pay cash for up-to-date unclipped B&M rulebook and loco roster. Write first.

(R) W. L. BREIG, 1412 E. Cheltenham Ave., Phila. 24, Pa., will sell *Railroad Magazine* July-Dec. '36; Feb., July, Oct.-Dec. '37; Mar., May, Aug.-Nov. '38, good cond., for 20c ea., all for $3. Remit in war stamps.

(*) W. J. E. BROSCHART, 65-17 Fresh Pond Rd., Ridgewood, N.Y., wants pix aband. PSCT trolley lines, also TARS in Mt. Vernon, White Plains, New Rochelle, Tuckahoe, NY&NS Traction or other L.I. trolleys, early BRT cars and N.Y. Rys. Offers 1500 pix all eastern juice lines, many aband.; also 300 rosters of U.S. trolley lines, or cash. Wants info on routes of PSCT around Ex. Pl., Jersey City, early '20s.

B. T. BROWN, 2200 N.W. 23rd St., Ft. Worth 6, Tex., buys or trades old or odd telegraph instruments. Write first, answers all mail.

(*) Gnr. L. BROWN, 445/65 Field Regt., R.A. M.E.F., will trade one tkt. of Italian State Rys., Chemin de Fer Tunisien, Egyptian State Rys. for any loco pix (st. or el). Write wants. Also, will trade 2 pix of Heliopolis-Le Caire (Egypt) trams (fastest in world) for 2 issues any mag. about railroads.

(*) ROBT. S. BROWN, 37 Shannon St., Toronto 3, Canada wants pix of early Toronto and dist. st. cars, buy or trade (TR Co., TCR, TSR, T&Y); has many for sale, old and new, incl. Six 8x10 contact pix 40 yrs. old. Will trade negs. size 616 for those of elec. rys. other cities.

(*) STUART H. BUCHANAN, 62 S. Dixie Ave., Dayton 9, O., sends list of size 124 pix of C&LE, Indiana rr. other Dayton traction and st. cars for your list or 3c stamp. Sells at 8c ea. or trades. Wants Cleveland, SW&Col., No. Ohio Traction, illustrated tts., *Off Guides* before 1938.

B. C. BURKHOLDER, 7 Central Ave., Primos, Pa., wants negs. of N&W strmlnd locos, 600 class 4-8-4,

any size clear and sharp. Pays $1. and up according to size and sharpness in detail.

(*) Pvt. HAROLD CARSTENS, School of Roentgenology, Class 17A, Univ. of Tenn., Memphis 3, Tenn., will buy or trade 116 trolley pix for pix of Palisade Jct., N.J. before PSNJ aband. in 1938; also, pix of Ferry Slip showing trolley tracks, 125th St., N.J. side. Write first.

(*) KENNETH CASFORD, 5024 Woodland, Kansas City, Mo., will sell new lists of Kansas City PS psgr. and work cars. Free lists of action pix all rrs. entering Kansas City. Wants over size 120 pix of Arkansas Valley Int. and Union Elec. Ry.

J. CHICK JR., 701 N. Perry St., Titusville, Pa., wants any size loco pix, historical info, on Northwestern Pa. short lines, esp. C&PA, Kane & Elk, LEF&C, HV, TV, W&DL, MtJK&R; also, pix of NYC 2-8-0s.

N. LO CICERO, 1137 S. Humphrey Ave., Oak Park, Ill., buys tr. ords. all roads 10c doz. Wants late Milw. rulebook and Milw. Div. emp. tts. Write first.

(R) WM. CLASON, 10106 Curran Ave., Cleveland 11, O., wants Jan., Feb. '07; Aug., Oct. '08; Feb. '09; Sept. '10; Feb., Apr. '11; Jan., Feb., Apr., Sept., Nov. '12; Oct. '13; Oct., Nov. '14; Jul., Aug. '30 *Railroad Man's Magazine*.

EDW. M. CLEAVER, JR., 159 E. 21 St., Paterson, N.J., wants 616 negs. and pix of IC motorcars *Miss Lou, Illini, Land o' Corn*, C&EI motorcars, others. Offers pix NYS&W motorcars.

RUSSELL C. COLEMAN, 7112 S. Harvard Ave., Chicago, will sell or trade pix of Chicago st. cars. Wants pix from other cities.

Z. M. COOK, 47 W. Fairview Ave., Dover, N.J., wants pix of UP 4-12-2 and PRR 6-4-4-6, sizes 116, 124, 122. Write first.

E. D. CULP, 1976 S.E. 23rd Ave., Portland 15, Ore., will trade SP tr. ords., railroad history, primer on locos, emp. tts., for tr. ords. of other lines or misc. rr. material.

WELBY E. DAHLMAN, S2/c(Y), Naval Receiving Barracks, 571 Market St., San Francisco, Calif., wants Louisville, Ky. fans to write. Settle all accts. Wants size 116, 616 and p.c. pix of CB&Q, EJ&E, RI and W&AB.

PAUL DANIELS, 621 So. 2nd, Millville, N.J., will trade 40 issues of *Trains*, 34 *Model Railroader*, new American Machinist Library. Wants early issues of *Model Craftsman, Model Builder* or foreign catalogs, will pay cash for *Modelmaker* bound vols. 10-14.

JOHN DAVIS, Box 42, Locke Mills, Me., wants data about CN, GTW, GT and CV.

(R) JOHN ENDLER JR., 23 Hughes St., Forty-Fort, Pa., will buy Dec. '29, July-Dec. '31, all '32, '33. '34, Jan., Apr. '35, Mar. '37 *Railroad Magazines*, good cond. Has copies of *Trains* for sale or trade. Will buy comp. tts. of any road.

MONROE FLEMING, 5917 N. Broad St., Phila. 41, Pa., will buy pix of PRR or Rdg. locos. State price, size, cond.

WM. FRAUSON, Box 17, Mahwah, N.J., wants L&N, CofNJ (camelbacks) StLSW pix. Has Erie pix.

(*) JOHN B. GAMBLE, 38 S. Marshall St., Lancaster, Pa., wants pix of steam and elec. roads, mostly rolling stock, psgr. or frt.

(*) N. GANAVAZOS, 641 Stanbridge St., Morristown, Pa., will trade Phila. tokens and trfs. for size 616 pix of Montreal PCCs; also, tokens, trfs. tkts., from Montreal, Indpls., Portland, Atlanta.

(R) CURTIS GAUGER, Rte. 2, Watsontown, Pa., will buy July-Dec. '41, Jan. '42 *Railroad Magazine* in good cond.

(*) EDW. T. GIBBS, 729A Macon St., Bklyn. 33, N.Y., will trade or buy size 620, 616, 127 pix and negs. of Canadian trolleys and buses.

(*) H. C. GOLK, 2732 Argyle St., Chicago, Ill., will trade latest maps of Chicago st. and interurbans for maps of all st. and inter. lines.

L. W. GOODWIN, Box 3, Northfield, Conn., will buy or trade pub. and emp. tts. of aband. and merged roads, esp. Fall Brook Ry. and No. Central Ry.; wants p.c. views of rr. scenes and stations.

J. R. GORHAM, 401 E. Sanders St., La Plata, Mo., will sell emp. tts. mostly current, of CB&Q, some divs. Pere Marq., all divs. B&O, NYC and AT&SF, in good cond.

W. E. GREEN, 165 Sherman Ave., Ft. Thomas, Ky., will buy pix of aband. Lex. & Eastern, Ohio & Ky., Mountain Cent., Red River Valley Ry., Rockcastle River Ry., Mammoth Cave, Brooksville, and Licking River Ry., *Trains* Dec. '40

(R) S. P. GUTHRIE, RFD 1, Box 382, Cold Spring, Ky., will buy pix and negs. Den. Boulder & Western, Den. Laramie & NW, Beaver Penrose & Nor., Unitah, and Book Cliff Ry., other short lines; also *Railroad Magazines* July, Sept., Dec. '37, R&LHS Bull. 36, *Trains* Jan. '42, *Off. Guide* '25.

J. P. HEBERT, 2100 St. Denis St., Apt. 4, Montreal, Que., Canada will buy or trade for emp. tts. of SP, DLW, GMO, N&W, NP, GN, C&S, Soo, SPS, CBQ, Milw. Most Canadian emp. tts.

(R) WALLACE HEIN, 2242 Argyle St., Chicago 25, Ill., will sell 37 *Railroad Magazines*, 1936-1943. Send 3c stamp.

(*) AL HICKERSON, 2304 E. 15th St. Kansas City 1, Mo., has size 116, 3x4, 4x5 pix of KCPS eqpmt., also new Omaha, Lincoln, Chicago, St. Louis pix; comp. set KCPS trfs., transit map 50c, comp. roster past, present eqpmt. 10c.

Pvt. LEROY HINCHLIFFE, c/o Mrs. L. Hinchliffe, Minooka, Ill., will buy any size pix CRI&P, EJ&E, and any locos built in last few years; wants Vol. 2 of *Trains*. Write.

ELMER E. HOSIER, 542 E. Washington St., Pasadena 6, Calif., will buy loco or other pix of Fall Brook Ry., any size.

ROBT. HUBBARD, 2654 Merrimac Blvd., Toledo 6, O., will buy pix and maps of Toledo, AA, Bay Terminal, DT&I, D&TSL, OPS, TT, TA&W, W&LE, Lorain & West Va. State price.

J. N. HUFF, 465 N.E. 61st St., Miami, Fla., will trade unused railroad matchbook covers with others who have same hobby.

S. S. HUTTON, 5510 W. Barry Ave., Chicago 41, Ill., will buy or trade negs. any short line, size 116-616; also, esp. wants WP, DSS&A, TP&W and T&P negs.

ROBT. W. JENNINGS, 108 Grove St., Putnam, Conn., will sell size 116, 616 loco pix, over 250 roads. 5c ea., 22 for $1. Write.

(*) THOS. JONES, 11 Spring Garden St., Cranford, N.J., wants pix and info on Williamsport, Pa., Rys.; also, pix of Market St. Ry. cars no. 735 and 736 and other Wmsport Ry. cars serving in other cities.

(R) H. L. KELSO, Box 4846, Florence Br., Los Angeles, Calif., new address. Specializes in Pac. Elec. action and scenic pix, size 620, 116, 3¼x4¼; good SP and MoP, size 116. Has old *Railroad Magazines, Baldwins, Railway Age* to sell or trade for loco negs; wants 1918-'19-'20 C&NW tt., also, pix, any size, and material on Omaha road. Mail answered.

H. M. KNIFFEN, 253 Mill St., E. Port Chester, Conn., will buy any size broadside negs. of locos, pass. or frt. eqpmt. with clear letters and nos. Wants *Locomotive Cyclopedias* and *Car Builders Cyclopedias*.

M. KOCH, 1115 Bryant Ave., Bronx 59, N.Y., will buy *Off Guide* 1932; *Railroad Stories* Dec. '29; all '30; Feb., Mar., May, June, Sept., Nov., Dec. '32; Jan.-Mar., Aug., Sept. '32; also 116 size pix of short lines and aband. roads.

SAM KONTOS, Whitehall, Mont., will pay 50c for Dec. '40, Feb., May '41, 35c for Nov. '42, Jan. '43 *Trains*. Wants latest rosters of Milw., NP, GN; '39, '40, '41, '42, '43 calendars of Milw. road. Write first.

(R) ALBERT KOZUB, 202 Washington St., Perth Amboy, N.J., wants any 1943 *Railroad Magazines*, good cond.; also, 1 pr. of OO 6-wheel Pullman trucks.

(R) G. B. KRUSCHKE, 1200 Clearwater Rr., Largo, Fla., will buy *Railroad Magazines* Jan. '30-Dec. '34; also, side views p.c. size locos.

JIM LANGAN, 857 Capouse Ave., Scranton 9, Pa., will buy latest emp. tts. of DL&W, Erie, D&H, CNJ, LV; also, pub. tts. of NYO&W, NYC, NYNH&H, ACL, UP, SP. Will trade elec. ry. pix of Northeastern Pa. for what have you.

(*) FRED LEVIN, c/o Goodman, 1314 S. Tripp Ave., Chicago, Ill., wants trolley tokens, U.S., Canada only. Write, state price.

(*) STUART A. LIEBMAN, 12028 Miranda St., N. Hollywood, Calif., has Pac. Elec. Los Angeles Ry., San Diego Elec. pix, 5c ea. Send 10c for list and sample. Note new address.

CONRAD LINDENMEYER, 4930 N. Leavitt St., Chicago 25, Ill., will buy ICS charts of locos in detail of any road.

(*) Lt. (j.g.) M. J. LOFTUS, USCGR, Keith Bldg., Cleveland, O., wants to hear from U.S. and Canadian electric line fans on any city, suburban, interurban, past, present, esp. Illinois, Ind., Wisc., Mich., Mo., Iowa, Minn., Ohio.

(R) FRED N. LONGSTAFF, 1603 Maplewood Dr., N.E., Cedar Rapids, Iowa, has Dec., Apr. '32; Mar., May, Oct. '33; Feb., Mar., July, Oct., Nov. '34; Jan., Feb., Apr.-June, Aug., Dec. '35; all '36 but Oct., all '37; all '38 but Mar.; all '39 but Dec.; all '40, '41, '42,

'43 *Railroad Magazine*. Will sell comp. only for $20. and ship by exp. or COD. Write first.

H. MANDEL, 315 Kensington Ave., Westmount, Que., Canada wants to hear from girls 18-22 interested in rrs. Will buy pix of CPR and CNR locos scrapped since 1933, esp. CPR 2000, 2100 Class.

(R) MARVIN A. MAHRE, RFD 7, St. Paul 9, Minn., will trade Oct. '41, May, Aug. '43, Jan. '44 *Trains* for back *Railroad Magazines* before Apr. '41 or for two loco pix any size. Write first.

(R) MARVIN McCARLEY JR., 2105 S. U St., Ft. Smith, Ark., will buy *Railroad Magazines* Aug. '42 back.

HAROLD McMISHAEL, Waterford, Ont., Can., will sell p.c. copies of three 2-6-8-0s, diff. roads, three AT&SF 2-6-6-2s, PRR 2-8-8-2, two 2-6-2s, or five 116 scrapped TH&B, for 25c. List of others. 25 U.S. and foreign clippings for 25c war stamp. Loco bks. and pix, incl. bldrs., trade for side view p.c. negs.

ERNEST MEYLAN, 2432 Holt Ave., Los Angeles 34, Calif., will buy pix of NYC *20th Cent. Ltd.* and *Mercury*, any size. Write price.

TOM MOHR, 5237 Moody Ave., Chicago, Ill., will buy foreign loco pix, esp. LMS, LNER, also Mexico.

HOWARD OWENS, Princess Anne Hotel, Asheville, N.C., will buy tr. pix or pix about rrs.

WM. E. PAUL, 51-12th St., N.W., Box 439, Portage La Prairie, Man., Canada, will buy or trade value and supply labels Amer. rrs. Buys negs. or pix of CP. Has some tts. Write first.

NORMAN J. PERRIN, 4523 Arabia Ave., Balto. 14, Md. will buy PRR emp. tts. all divs., esp. Md.; wants any size photos Pennsy Q-1 loco; has size 616 B&O, PRR prints.

ERNIE PEYTON, Box 443, Ft. Collins, Colo., wants to hear from R. W. Biermann, Bill Canell, in armed services; also, anyone who knows whereabouts of S. Gaylord Burns, last heard from in Phila., write.

Cpl. THOS. PHILLIPS, 2nd Co., 248 Sig. Bn., Ft. Monmouth, N.J., will buy B&O, Toledo & Indnpls. pix, 1913 flood pix. Wants to enlarge Cincinnati, Hamilton & Dayton collection. Answers all mail.

(*) D. A. PICKETT, 3544 Laughton, Ft. Worth, Tex., will sell pix of Cin. St. Ry, LVT, PE, 8 pix of Dallas Ry. & Ter., Elec. Ry., size 616 four of ea. at $1. for 8 or 15c ea. Wants pix of Buffalo, Rochester, C&LE, Conn. Co., PE cars and interurbans.

(*) EDW. M. RAYMOND, CM2/c, Hq. Co., 12th Naval Const. Batt., Cp. Parks, Calif., will buy plans, blueprints, clear p.c. or larger pix of interurbans, st. cars and elec. locos., pref. direct side and end views, frontal angle shots acceptable. Write descriptions.

(R) W. C. REED, Box 8, Valley Park, Mo., will pay 25c ea. for Jan., Feb. '31; Dec. '41, Sept. '32, Feb.-May '43, Jan., Mar., June-Aug. *Railroad Magazines*, May, Oct. '42 *Locomotive Engineers Jnl.*

(R) J. R. REID, 358 Woods Ave., S.W., Roanoke 16, Va., will sell size 116 loco pix, 30 for $1. p.p. Catalog and sample, 10c. Wants Dec. '29-Dec. '31 *Railroad Magazines*.

(R) WARD RICHARDS, 328 Chestnut St., New Britain, Conn., wants Oct. '43 *Railroad Magazine*.

(R) C. F. ROSENCRANS, 1127 W. 26th St., Erie, Pa., will trade NKP pix and tr. ords. for ords. and pix of any road. Old BR&P calendar and *Railroad Magazines* for sale.

H. RUSH, Box 197, Stewartsville, N.J., will trade war stamps, war relics for rr. uniform buttons, large size, any quantity, other old uniform buttons.

(*) WALTER C. SCHMALZ, 311 E. Susquehanna St., Allentown, Pa., will buy or trade tokens, trfs., trolley pix. Offers 4 diff. LVT, 3 A&RT, PTC, PRT tokens.

Lt. (j.g.) FRANK E. SHAFFER, 164 Jefferson Ave., Chantal Court, Wheeling, W. Va., (at sea, mail fwd.) will buy or borrow B&O pub. tts. before 1932, or emp. tts., any div., and date.

Pfc. J. F. SMITH, H&S Co., 167th Engrs., Cp. McCain, Miss., will sell or trade about 150 diff. loco pix, size 116, p.c., 5x7, 3x8, 8x10. Wants HO or 1/8-in. scale plans locos and rolling stock.

Pfc. T. J. SOMMER, 31328952, 53rd F. Gp., Page Field, Ft. Myers, Fla., has tr. ords., AB&C, ACL, AT&SF, CB&Q, IC, MoP, NYC, NYNH&H, SAL, SL-SF, SLSW, SP, UP, WAB, comp. with clearances to trade or will buy any U.S. tr. ords., pref. recent. Esp. interested Ann Arbor, B & Arroostook, B&M, CV, D&H, Erie, DL&W, ITC, LV, Maine Cent., N&W, NYO&W, PM, Rutland, SD&AE, RF&P, Vgn., will answer all mail.

C. E. SOUTHARD, a/s V-12, USNR, Burton Hall, Room 10, Denison Univ., Granville, O., wants to hear from correspondents he had before entering in Navy, July, 1943. Milw. road fans, write.

(*) Sgt. EDWARD STOWE, Sqdn. A, McChord Field, Wash., wants pix of old Manchester, N.H., street cars, open or closed; send lists and prices.

Pvt. WARREN D. STOWMAN, 33478498, Co. H, 300th Inf. Reg., Camp McCain, Miss., will pay highest prices for loco roster showing transfer of East Pa., North Pa., Phila. Germantown & Norristown, Wilmington & Northern power to Reading System.

W. PAUL SWEET, 725-19th St., N.W., Washington 6, D.C., will trade loco piv, mostly old, for rr. uniform buttons.

H. C. TIMMONDS, 181 S. Commonwealth, Los Angeles 4, Calif., wants to hear from rr. scrap book fans. State if items are dated, general nature.

W. VAN NOSTRAND JR., 101-31-130 St., Richmond Hill N.Y., wants blue prints of steam locos and any size pix of LIRR or PRR locos. Trade or sell *Trains* Nov. '43 and *Quiz*, book on rrs; also, tts. Send for list. Answers all mail.

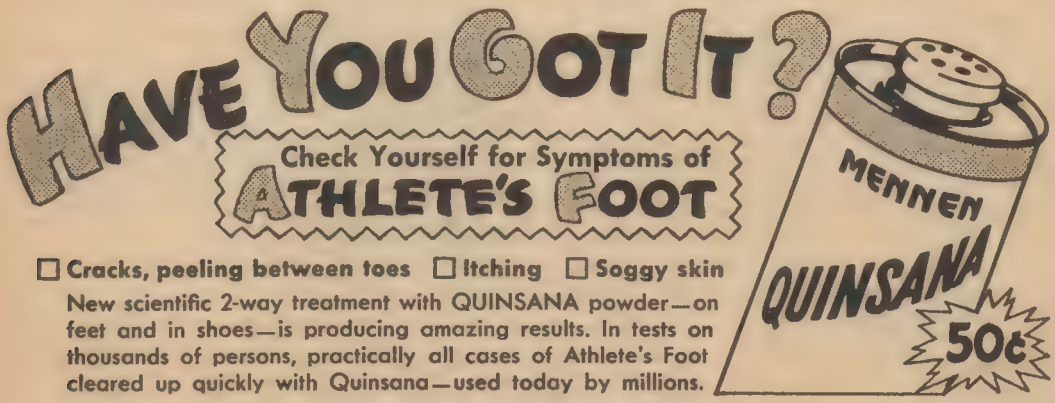
ROBT. VOGEL, 5516 Park Hgts. Ave., Balto. 15, Md., will sell Jan. '40-Feb. '43, Apr., May '41 missing, *Popular Mechanics*, perf. cond., 15c ea.; or will trade for loco headlgts, marker lgts. sig. arms. Write first.

E. A. WEBB, 1705 Woodlawn Ave., Logansport, Ind., will sell 20 116 size pix for $1. Milw., C&O, NKP, PRR, IC, WM, NYC, PM, Soo, Wab., Send 10c for list and sample. Will trade some 116 size negs. for Ind. roads. Send negs. on approval.

(*) W. G. WEIBLE, 9641 Sorrento, Detroit 27, Mich., will trade Detroit St. Rys. tokens used before 1923, for trfs. or pix. Write, make offer.

R. WILLIAMS, 620 N. Adams St., Havre de Grace, Md., will buy *The Boomer*, *Clear the Track*, etc. rr. books.

ROBT. S. WILSON, 708 S. 9th Ave., Yakima, Wash., offers Vol. 2 of *Trolley Trails Through the West*, chapters on Yakima Valley and Seattle now ready, 25c per copy. Vol. 1, Western Canada and Yakima still available, 25c. Write.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Check Yourself for Symptoms of
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New scientific 2-way treatment with QUINSANA powder—on feet and in shoes—is producing amazing results. In tests on thousands of persons, practically all cases of Athlete's Foot cleared up quickly with Quinsana—used today by millions.

Model Railroading

"WALLY," they said (and I misquote), "ain't you the old comedian; leaving all them K-5 Pacifics that the boys was building, comma, with their pants down, so to speak. What good is a solid mahogany boiler with no chassis under it? Was you waiting, maybe, for the Pennsy to streamline its prototypes, on account of you couldn't dope out the valve motion?"

To which I reply: "Blame it on Hitler, Tojo, Muss—no, he's out now, your favorite newsdealer, or the editor of *Railroad Magazine*. Can I help it if paper is at a premium? And who's to say this department isn't vital to morale?"

Those of my readers with long memories will recall that, back in February, I described a simple method for building up the boiler, firebox, cab, tender body, and their various adjuncts, with a minimum use of critical war materials. Gingerly removing the wasp's nest from the right running board of our Double-O gager, we will now resume operations.

An engine bed, whether it be sixty feet long, or six inches, is the backbone of the locomotive to which it is applied, and as such it must be well-designed, sturdy, and in perfect "tram" (squarely aligned) to insure a smooth-running job. It's parts include the side frames *A* (see diagram on page 140), together with cross braces, pilot beam and deck, and—in the case of our model—bearings for the electric motor and gear drive. On the other hand, we have designed our locomotive in such a way that the cylinders and saddles are attached to the boiler, rather than to the frames.

Time was when you could pick up a length of one-eighth by one-half inch brass stock anywhere, and file out a set of side frames. Now you'd better get some strap iron. Luckily, this is a common size. You'll find such material used as wheel barrow bracing, to put the spring in the old family baby carriage, and for supporting cracked urns from which synthetic rubber plants once nodded.

File all paint and rust from two seven-inch lengths of such stock, and sweat-solder the strips together, back to back. This is done by plating the surfaces to be joined with solder, while holding the metal over the flame of a gas stove. Use a moderate amount of flux (too much will tend to form a charred crust) and then place the strips together, sandwich fashion, and secure them firmly with C-clamps. Apply

heat once more and the soldered surfaces will fuse.

Now cut a cardboard pattern or template conforming to the shape of the side frame shown in the diagram, and incorporating a pedestal or rectangular guide for the center or main driving wheel boxes. Scribe its outline on the metal and with a center punch, spot the two outside axle holes or bearings. Also indicate the locations of the two bearing blocks marked *D* and at the center of each half-inch square formed by these scribe marks, make another impression with the punch. With an eighth-inch twist drill, bore all four holes perpendicularly through both sections. Having done this, the template may be correctly spotted to permit scribing of the surface. With a hacksaw rough out the form thus outlined; then bring it to exact size with flat, triangular and rat-tailed files.

NEXT, separate the frames by re-heating and bend them inward, as shown in the drawing, to permit trailer truck side play. Do not scrape the solder from the inner surfaces, as it will serve in joining these members to cross braces *C*, *D*, *F* and *H*. These are also filed from scrap iron to the shapes indicated in the diagram. Each *D* member has a one-eighth-inch hole drilled through it from front to back to receive the shaft to which the driving worms (spiral gearing) are applied. Far be it from your author to suggest that these gears may be picked up at the nearest dime store. You'll have to dig for them. I found mine in a second-hand radio parts shop; steel and brass combinations with a reduction of 25 to 1, which makes for a lively engine, free from the coffee-grinder sound that comes with a greater step down in motor speed.

Naturally the placement of the holes or bearings in blocks *D* will depend upon the size of the worms and gears used. Bear in mind that their mesh should be such that they engage snugly, but without a trace of binding action.

Through the holes run a three and one-eighth-inch length of one-eighth-inch shafting, *K*. Now lay the two coupled *D*-units on their sides and place one of the side frames in correct position against them. Spot holes in alignment with the two borings in the side frame, drill these holes through the *D* units and after plating the outer surfaces of the members with solder, sandwich them between the side frames. Pass two small bolts through the entire assembly and draw the sections snugly together with nuts on the far side.

With the frames and bearings thus temporarily aligned, you are ready to drill out a third shaft bearing, this one in block *F*, a T-shaped spacer which plays an important part by supporting the electric motor field and spacing out two small clock gears, one attached to the armature shaft *I* and the other to the worm shaft *K*. The obvious purpose of the gears is to permit the motor to be raised sufficiently high for its concealment in the firebox. Here again the spotting of the armature shaft bearing will be determined by the size of the flat gears used.

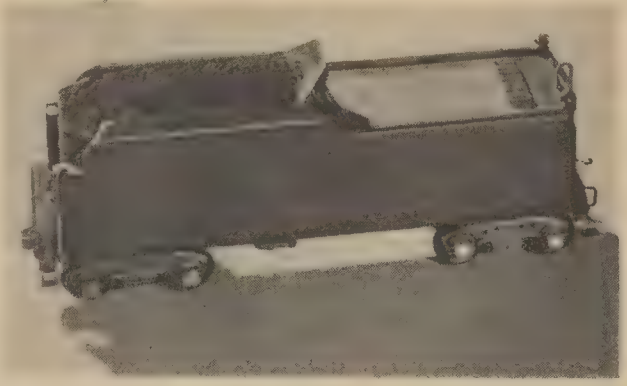
After applying solder to that part of the *F* block which comes in contact with the side frames, slide it into position between them and pass the rod *K* through the bearing. Rotate this shaft to make sure that it turns freely and then, grasping the assembly at its extreme end with a pair of pliers, hold it over the flame of the burner until the solder fuses. It will take some time for the unit to cool and if it is laid on a flat griddle during that period any minor adjustment of the parts may be made with a second pair of pliers.

Spreaders *C* and *H* are sweat-soldered into position in a second operation. Due to their small size and the difficulty of aligning them,

Ersatz Pacific

By THE NUT-SPLITTER

PHOTOS show our Pennsylvania K-5 engine and tender completed and ready for painting. Body color of these Pacifics is dark green, with red-brown cab roof and tender deck. Running gear is black; all striping and lettering, gold. If you have access to an air-gun, lacquer makes an ideal finish, since it can be rubbed to a smooth, metallic luster



I made these blocks slightly oversize and filed them down after they were attached. By wrapping a damp cloth around that portion of the engine bed previously soldered, the possibility of having them loosen up while heat is being applied to the new members is eliminated.

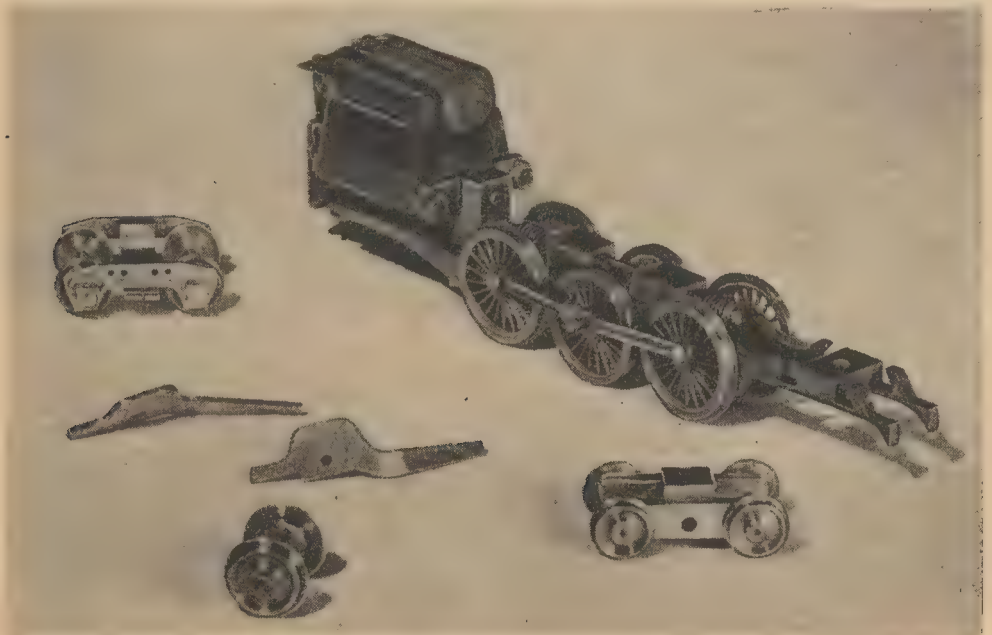
Examination of the diagram will show that rear armature bearing *I* is secured to block *H* by means of a small bolt passing through a one-eighth-inch hole in the latter and on into a threaded bore in the bearing itself, the thread being cut with a tap bought at the dime store—they're still in stock. Incidently, by passing a small collar (tube) over the bolt before securing it, an excellent pivot is obtained for a short bar used as a coupling to the tender. The bolt has the further advantage of permitting the armature, with its gear, to be removed from the motor when the commutator is cleaned.

Trailer-truck bearing plate *G* and pilot beam *B*, after filing, are attached to the frame by the simple expedient of plating and heating them, then placing them quickly and accurately in position against the frames, flux having been previously applied to the area of contact. Fortunately the larger members are thin at these points, and the heat transmitted to them by the pilot and bearing plate is sufficient to insure a sturdy union.

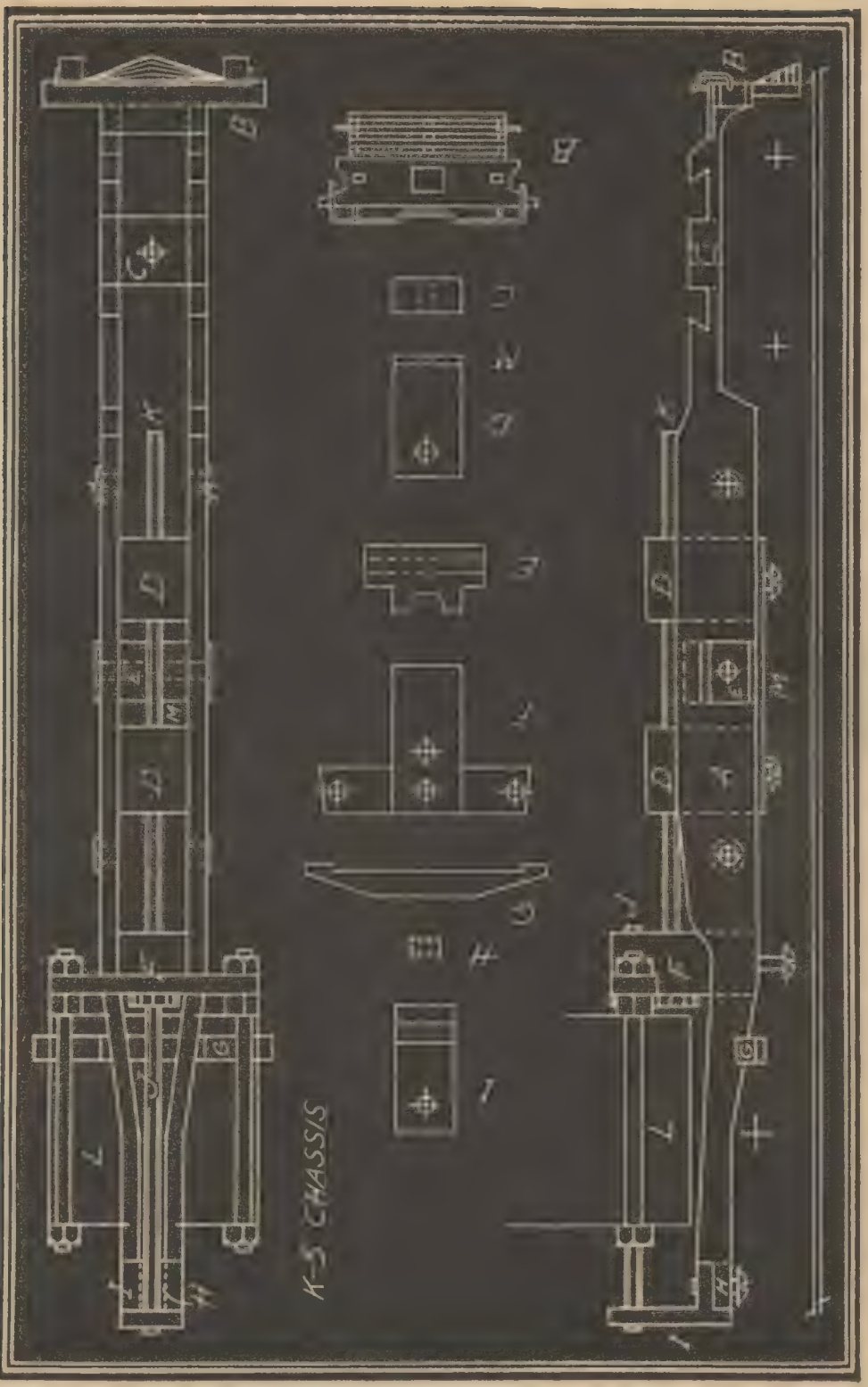
We are now ready to shape block *E*, which serves as a driving axle box for the main drivers. Sliding up and down in the pedestals cut in the side frames, it insures constant contact of these wheels with the rails, regardless of any track irregularity. There is no need to "spring" this box, for its weight is sufficient to keep it in position. A small plate *M*, bolted to bearing blocks, *D*, acts as a stop at the bottom of the guides. In addition, the forward bolt will anchor a tension-spring connection on the leading truck (to be described directly), while the one at the rear may be used to secure the engine pickup shoe.

While we're at the business of drilling and tapping the engine bed, three more borings are in order. One, passing upward through block *F*, will receive a collared bolt to which the trailer truck is pivoted, while two others, one unthreaded, in block *C*, and the other tapped and passing through the back of block *I*, just below the armature bearing, offer the means of anchoring the chassis to the cylinder saddle and rear cab plate, respectively. In addition, three very small holes are drilled into the pilot beam from below, to receive vertical supports to which thin strips of tin are soldered for the pilot proper.

WHAT to do about wheels? If you are lucky you may have a few of them kicking around. I had stocked up on a few pair prior to Pearl Harbor and by applying dummy counterweights of the correct contour (before and after views



ABOVE: Parts of the K-5's running gear, in the process of construction. Center or main drivers are "blind," insuring maximum flexibility on curves. AT RIGHT: Chassis construction diagram. All of these drawings are full scale for 00 gage.


K-3 CHASSIS

appear on pages 141 and 138, respectively) I had no trouble in adapting them to this model. Anyone not so blessed will be violating no prototype practice by turning out a set of disc drivers of the Scullin type (see page 64 of the October, '43 *Railroad Magazine*). Note that the main wheels are "blind." That is to say, they have no flanges.

Small segments of nails are used as crank pins. Taper them slightly at one end before press-fitting them to holes drilled in the wheels. Once cranked in this fashion, the drivers are ready for mounting on their axles. Here again we use a press fit, attaching the three shafts to the wheels on one side, then thrusting the axles through their bearings and mounting the other three wheels so that their cranks are a quarter of a revolution either in advance or behind the opposite drivers. Pennsylvania engines have what is known as a "left lead." That is to say, the cranks on the left side are ninety degrees ahead of those on the right side when the engine is running forward.

Since we are using a "floating" main axle, we will have to hinge our side rods to allow for vertical play. In prototype practice those rods connecting the first and second crank pins extend on back to hinge joints with the rods to the rear pins. We will do better, however, to use the main-driver crank pins as pivots for hinging, soldering dummy knuckles behind them. The rods, themselves are of brass, fluted with a small hand grinder, and secured in place by metal caps soldered on the pin ends. Oil the bearing surfaces first, however, to prevent the rods from "freezing" to the caps.

The main rods are similarly made and applied to their pins, except that eccentric half-cranks, rather than caps, hold them in position. To their forward ends the crossheads are attached. Each crosshead is a small block of brass containing a slot cut with a hacksaw, into which the end of the main rod is dovetailed and pivoted with a small brad. In addition the crosshead has channels sawed into both sides near its top to form an I-shaped cross-section. These form the bearing surfaces which permit it to slide between two one-inch lengths of bus wire used as parallel guides.

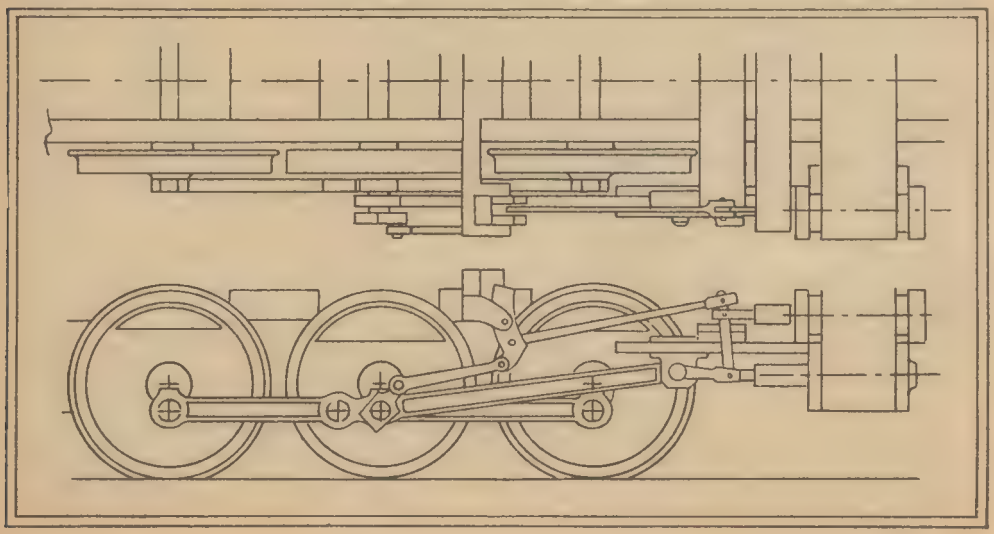
Supporting the guides, in turn, is a one-half by one-quarter by one-eighth inch cross member, soldered to the frame as indicated in the valve-motion diagram. A slot slightly wider than the spacing between each pair of guides must be filed in the under surface of this support, on each side of the locomotive, to permit the crossheads to pass beneath it unobstructed.

A third, steadying agent for each crosshead, of course, is the piston rod attached to its forward end. This rod will not actually pass into the cylinder, but only reach it at the end of the main rod's forward travel. Rather, it enters a short length of metal tubing held in alignment with the center of the cylinder by means of a drop of solder spotted between it and the crosshead guides.

In the same manner, the piston valve rods enter holes drilled in a cross member attached to the engine bed, rather than passing into the steam chests. This cross member must be tapered up and outward at each end, to allow clearance for the crossheads. The purpose of keeping both sets of rods entirely clear of the cylinder blocks is to make for ready removal of the superstructure from the chassis.

Our valve gear diagram indicates, better than words, the forms of the various parts involved.

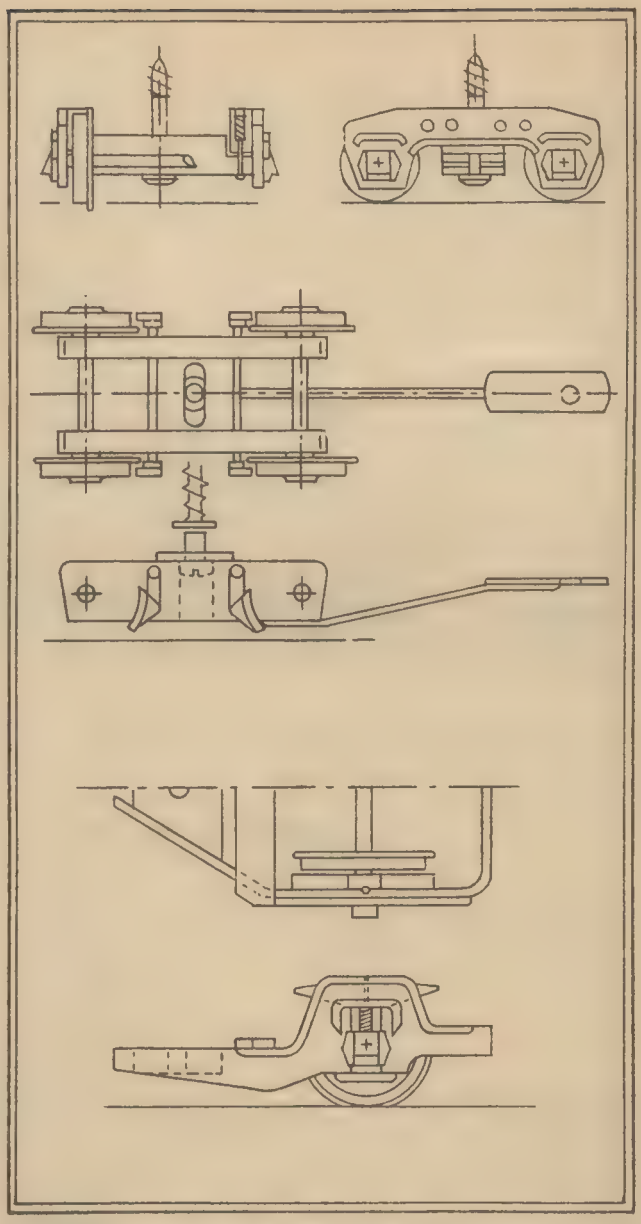
BELOW: Rod and valve gear assembly



First make the bracket to hold the links, or crescent-shaped rockers. Solder it to forward bearing block *F*, which it straddles, using the system already described, wherein both surfaces are plated with solder, the smaller unit heated, and the two members joined and allowed to cool. Then with brass stripping and sections of beads, build up the assembly of levers and rods. Where slots must be cut or holes bored, make the required cuts or drillings before shaping the rods—its a lot easier than performing such operations on a finished part. Drops of solder will hold the pins in place.

NOW we're ready to consider the subject of pilot, trailer, and tender trucks. Of these, the first is the simplest, being merely an H-shaped frame with slot in the bolster or cross-piece which permits the unit to swing to right or left of engine center-line. A small woodscrew, with a three-sixteenth-inch collar to allow vertical play, is passed upward through this slot. A washer is then applied above the collar and the threaded position of the woodscrew continued through the boring in main frame spacer *C*. Next screw it into the cylinder saddle of the super-structure so that it binds the two members firmly together, while at the same time serving as a king-pin.

Since the fundamental purpose of a leading truck is to guide engines safely onto curves, we'll do well to emulate that practice. This can be accomplished by drilling a small hole in the back of the bolster and inserting a two-inch length of spring-wire. Bending this wire first downward and then upward again so that it will clear the rear axle, we'll solder a small drilled plate to the outer end of the stabalizer thus formed and, passing a bolt through the plate, thread it into forward bearing block *F*. The tension of the wire, you'll find will be sufficient to ease the driving wheel-base away from tangents, without creating excess pressure on the pony-wheel flanges.



TENDER, pony and trailer trucks. All are sprung for smooth running

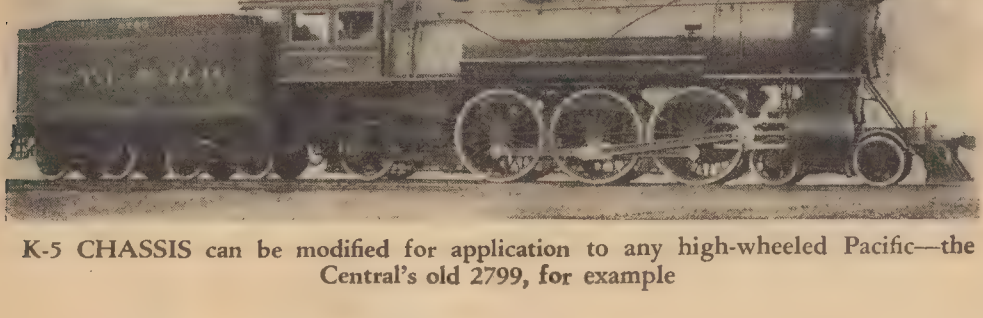
The trailer truck, while no more difficult to construct than its running mates, utilizes a slightly more complicated method of springing; tiny compression coils being placed above the journals, which ride up and down in pedestals. I had at first intended to disregard this refinement, but changed my mind when I attached the motor to the chassis and saw that despite the lead-filled boiler, the greater part of the engine weight was being supported on the rear driving axle. Springing the trailer journals, then, re-

lieved this condition and made for a very smooth-riding job.

The same easy action may be obtained in the tender trucks by spring-connecting the bolsters to the side frames. To do this, solder a metal block to the inner surface of each side frame at its center. Bore a hole (just large enough to receive a coil spring) two-thirds of the way down through each block, then continue a smaller hole on through the metal. Insert the coil springs into the pockets, slip brads down through them and on into the smaller holes. The ends of the brakes are then tapped into aligned drillings in the bolster and soldered to the bottom surface of that member. This permits up and down motion of the side frames, the brad heads compacting the springs to absorb rail shocks.

To complete our model, mechanically, we must apply pick-up shoes to both the bolt passing upward into rear block D, and to the tender body directly behind the water scoop.

A reversing mechanism is also in order. A while back we promised you a design for a track-trip actuated gear, but its publication will have to wait until *Railroad Magazine* gets its next allotment of newsprint.



K-5 CHASSIS can be modified for application to any high-wheeled Pacific—the Central's old 2799, for example

Model Trading Post

LISTINGS here are free. Keep 'em short. Because of time required to edit, print, and distribute *Railroad Magazine,* all departmental material should be sent to the editor seven weeks before publication date. Every *Trading Post* entry must be accompanied by the latest Reader's Choice coupon (clipped from page 145 or homemade.)

CHARLES BAUNACH, Box 46, Kingston, N.Y., will buy Lionel locos nos. 1668 Penn Torpedo, also 1662 switcher pilot cplr.; 1662 cattle car, 012 r.c. switches. Write cond. and price. Will trade 1943 framed PRR calendar for UP or AT&SF showing *Super Chief* or *City of Denver.*

JAMES E. BOESHAAR, 6330 W. Richmond Ave., Milw. 10, Wisc., will trade 45 copies of *Railroad Magazine* for Power Pack or HO eqpmt.

ROBT. BRINKLEY, Pritchett, Colo., will buy 1800 0-gage T&SF loco or similar 2-6-2; also, tender for same. Cash, write first.

JAMES R. CANTY, Box 1311, Fairbanks, Alaska, will buy all kinds of HO eqpmt. Send lists and price. All mail answered.

R. D. CLEMENS, PRR frt. agt., Syndicate Trust Bldg., St. Louis, Mo., will sell AF K5, 3 pass. cars, NKP 0-8-0, 27 cvd., 21 str., 4 hd. switches, 50-watt trfmr., 2 stations, st. lamps, water, signals, ties, and other items for $49. or best offer.

JACK CRUIKSHANK, 3225 Veteran Ave., Los Angeles 34, Calif., will sell HO AF Hudson, 50 ft. brass rail, 30 ft. zinc rail, Gilbert model 8B 100-watt trfmr, highest offer.

MELVIN A. FRANKEL, 3064 Brighton 3rd St., Bklyn. 24, N.Y., will sell Marx 027 elec. switches, track, Marx frt. and pass. cars, trfmrs., Lionel 0 whistle tender.

K. FRAZIER, c/o Ralph Joyce, Beecher Falls, Vt., will buy 027- or 0-gage outfits, A-1 cond., esp. switchers 1662, 1663, 203, also r.c. switches.

CURTIS GAUGER, Rte. 2, Watsontown, Pa., will pay cash for Lionel tinplate trucks, die-cast, cplrs., old style pressed steel cplrs.; also Lionel locos 1666 or 1668 strmlnr. State price.

F. F. GILLARD, 202 Decatur St., Lincoln, Ill., will trade or sell 15 pr. Shop Craft, 5 pr. AF, 3 pr. Ives, 0-gage tinplate trucks. Wants No. 2 or 3 KD motors or one No. 4 and $1; or $7 takes all.

Dr. GLEN HARRISON, 307 Washington St., Waukegan, Ill., will buy old style U.S.-or German-made locos, cars, trolleys, autos, boats, steam locos., any cond.; also, std. gage trs., old tr. catalogs, mags., bks.

ROBT. LORSON, 650 S. Maine St., Naugatuck, Conn., will sell one Lionel elec. loco 0-gage 295 E, no whistle, for $5.

JOHN LYKO, 4818 W. 23rd St., Chicago 50, Ill., will sell ¼-in. scale frt. cars, rail, ties, parts, little used. List for stamp. Wants Anels, Hawk, Scale-craft, Westbrook 0-gage trucks, other scale eqpmt. State type, cond., age, price.

F. J. McATEER, 38 William St., St. Thomas, Ont., Can., will buy second-hand 4-4-0 live stmr. miniature amusement park loco, whether or not in working order. State price and cond.

FRANK McCLELLAN, 7733 Sunnyside Ave., Seattle, Wash., will trade std. gage eqpmt. for 0-gage tinplate locos, cars and st. cars.

J. G. McCLELLAND, 1225 Scott St., McKeesport, Pa., will trade Lionel remote control set, also str., 12 cvd. track, all 027, for 0-gage.

BOYD J. McWHORTER, Moorefield, W. Va., builds ¼-in. scale frt. cars for sale, $4.50 to $10 ea.

C. L. MESSER, JR., 139 Lake Ave., Auburn, N.Y., will trade R.P.O., R.R., and R.M.S. cancelled covers for HO eqpmt, incl. locos, track, rectifier, switches, etc.

WILLIAM P MOORE, 255 Bedford Ave., Mt. Ver-

non, N.Y., will sell Gilbert Hudson-type loco, AC or DC, 6 frt., 1 pass. car, 17 ft. laid track.

E. MEYLAN, 2432 Holt Ave., Los Angeles, Calif., has Lionel 022L switch to sell, or trade for 714 boxcar.

CLAYTON MOSELEY, 816 S. Boeke, Kansas City, Kans., has new 0-gage pass., frt. cars for sale; few kits, some partly finished, brass rail, whistle unit; wants 0-gage st. or interurban car.

GEORGE MURRAY, 189 School St., Manchester, Conn., wants 5/16-in. steel or brass rail for No. 1 gage; will pay good price for recent copy *Loco. Cyclopedia.*

RALPH PAULY, 2057 Barclay St., Los Angeles, Calif., wants AF Nos. 429, 431 switcher, 436, 427 locos, 416 wrecker, 688 r.c. switches, signals; Lionel locos 225, 226, 763, 2660 crane, 2758 auto., 2757 caboose, recent pass. cars; has 2600 frt. cars, old std. pass. cars.

T. J. PELLETIER, Rte 3, Palouse, Wash., wants motor for Bing and Ives loco No. 17, also Lionel locos 224, 225, 226, AF 16.

RALPH M. PERRY, 8 Vermont Ave., Brattleboro, Vt., has over $1000 worth model eqpmt. to sell; send 10c in stamps for 15-page list.

JOHN PITTALA, 80-33 88th Ave., Woodhaven, N.Y., will trade Varney HO caboose kit, HO boxcar body minus trucks for 50 ft. ½-or ¼-in. 0-gage track, two AF pass. cars, Lionel scale caboose, AF 2-4-2, or 4-4-0 loco.

E SCHAEFER, 2450 Fenton Ave., Bronx 67, N.Y., will sell new 0-gage Hudson loco and tender kit, $60.

J. SHEDMAN, 11 Dunbar Ave., Fords, N.J., will trade or sell 2 AF HO gondolas, PRR LNE flat cars.

C. G. SIEBERT, 311 E. Enterprise St., Abilene, Kans., will buy HO motors or armatures not over 5/8-in. diameter.

A. D. SLATER, 14001 Maplerow Ave., Cleveland 5, Ohio, will rent wooden loco models for adv. and display purposes; built to 5/8-in. scale.

Cpl. R. L. STAFFORD, Co. 41, 308 Qm. Bn., Bks. 876, 1211 SCSU, Pine Camp, N.Y., wants *Model Craftsman*, Aug. '38, also tinplate catalogs before 1930, Bing or Maerklin foreign or domestic type 0-gage eqpmt.

GERALD STAMBAUGH, Amsden Bldg., Pioche, Nev., wants 0-gage live trolley kits, parts, track materials; cash or trade.

H. O. STOCKWELL, Hutchinson, Kans., wants brass or enameled name plates of obsolete cars; has files of auto mags. before 1920.

OSCAR STOOS, Box 126, Copper City, Mich., will trade 2 no. 1621 Pullmans, 16622Y AF observation car for 494 baggage, 496L Pullman, 497L obs., 521 bag. and club car, 524 Pullman; has 5 B-type trfmr. for sale or trade for AF 3/16-in. cars.

O. P. STUFFLEBEAM, 836 Derby Lane, Green Bay, Wis., wants old Lionel std. eqpmt. of 1906-20 period: steam locos nos. 5, 6, 7, 51; elecs. 33, 58, 53, 42, 54; Pullmans 18, 19, 190; old-style day coach 29, frts. of 11-17 series, also old catalogs.

CHARLES R. TAYLOR, 4012 Verona St., Los Angeles 23, Calif., will buy all kinds std. or 0-gage eqpmt.

SETH THOMSON, Box 373, Pacific Beach Sta., San Diego 9, Calif., wants 00-gage two-rail track, other eqpmt. Send lists; will pay cash.

D. J. WAGNER, SP fireman, 85 Fourth St., San Francisco 3, Calif., will sell SP 4458 made from S.C. 4350, 0-gage, 4-wheel tender; wants 00 locos or kits.

ART WEINMAN, 416 Central Ave., Rochester 5, N.Y., will trade Hellgate Bridge model, 124 str. and cvd. track for Lionel 6-in. pass., obs. cars, caboose 2757, Monorail outfit, also photo M&StL loco 334, logging-road Mallet, pref. builders card.

H. E. WILLIAMS, 170 Bay St., Providence 5, R.I., has 0-027 gage track, frt. cars with auto, cplrs., Lionel loco 1666 to trade for HO locos, cars, track. Stamp for list.

R. WILLIAMS, 620 N. Adams St., Havre de Grace, Md., 0-6-0 switcher, 2 pr. r.c. switches, cars, eqpmt. to sell or trade.

G. H. WITHAM, Metro. Life Ins. Co., 1119 Stahlman Bldg., Nashville 3, Tenn., has Varney *Little Joe*, scale HO pass. cars, elec. turntable to trade for Gilbert HO pass., bag. cars, track.

ROBT. E. WOLFE, 1730 E. Maryland St., Evansville 14, Ind., will trade 40 ft. 0-gage scale aluminum rail for same amount 0-gage steel rail.

C. R. WOODS, Box 224, Wooddale, Ill., wants HO Mantua Pacific or Mogul loco, also old tinplate wind-up trains.

E. M. WRIGHT, Box 246, Croyden, Pa., wants HO locos, cars, Midlin track, switches; send lists.

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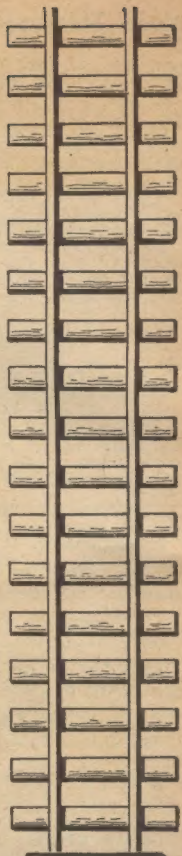

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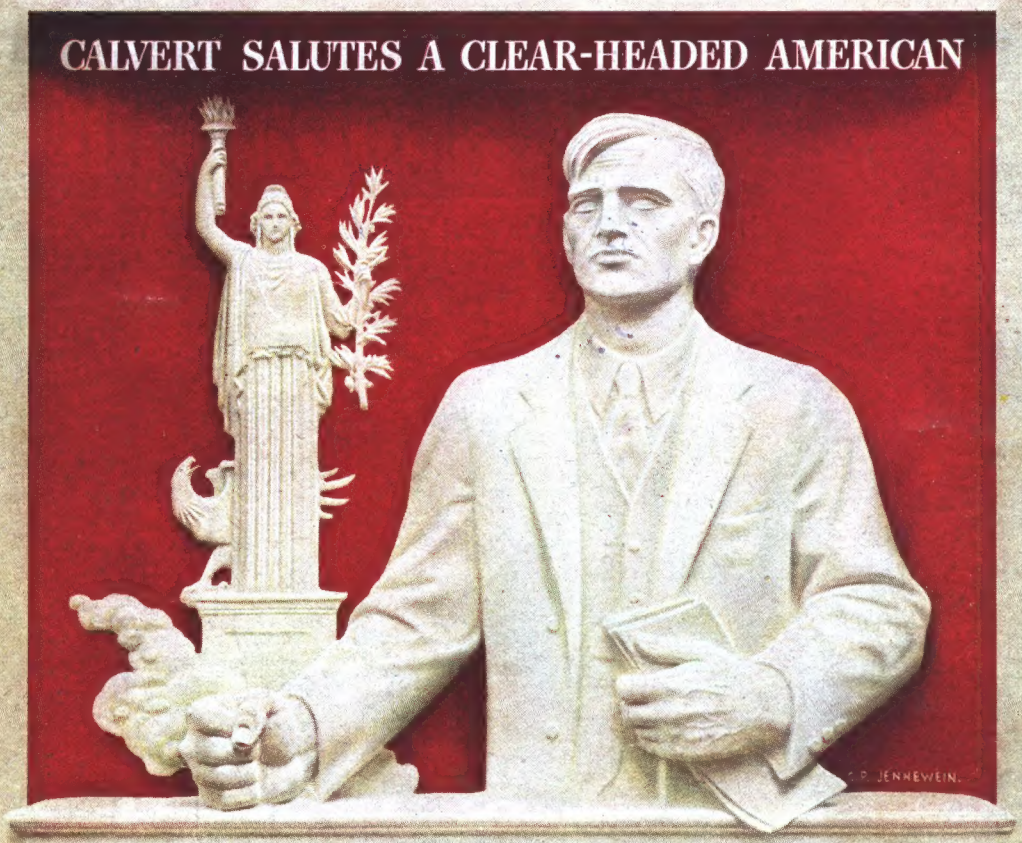

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